This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

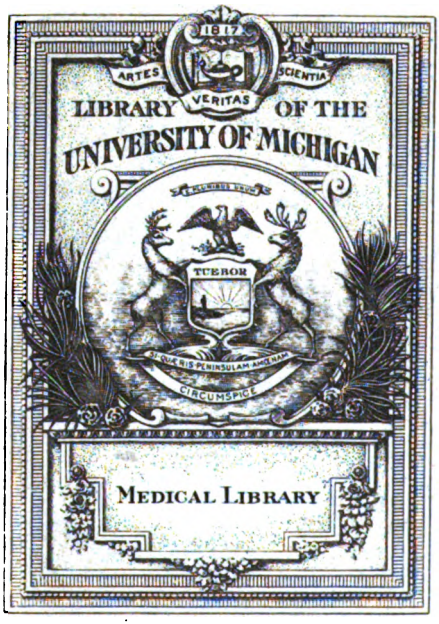
+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

B 3 9015 00212 890 1
University of Michigan – BUHR

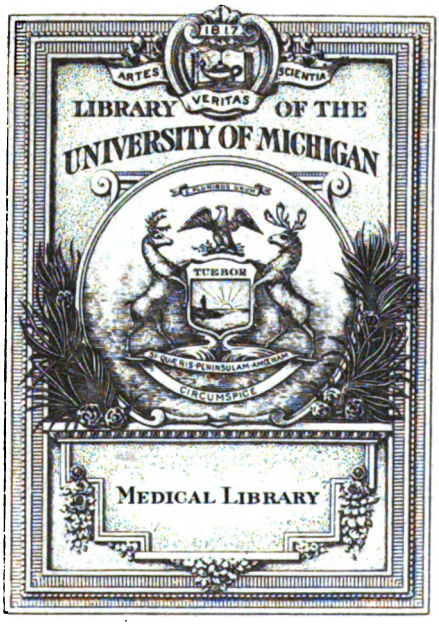
Digitized by Google



Digitized by Google

610.5
S73
J8

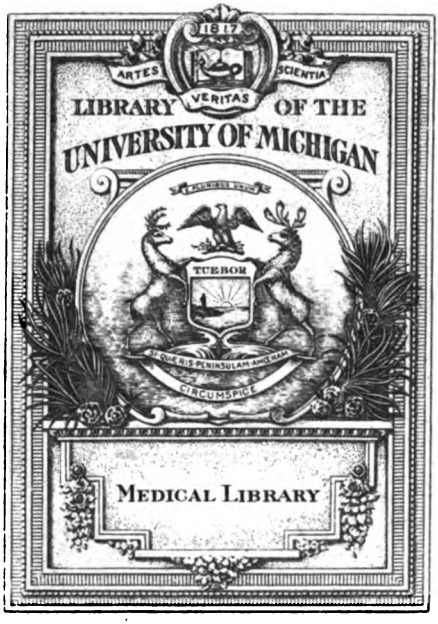
Digitized by Google



Digitized by Google

610.5
S73
J8

Digitized by Google



Digitized by Google

610.5
S73
J8

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

15-226

SOUTHERN JOURNAL

GENERAL LIBRARY University of MICHIGAN

OF THE

MEDICAL SCIENCES.

D. WARREN BRICKELL, M. D.
C. BEARD, M. D.
W. S. MITCHELL, M. D.,
JOSEPH HOLT, M. D.,
} EDITORS AND PROPRIETORS

D. P. FENNER, M. D.,
A. W. PERRY, M. D.,
} ASSISTANT EDITORS.

VOL. II.

NOVEMBER, 1867.

Mens invicta manet.

NEW ORLEANS, LA.:
W. H. Lewis, Book and Job Printer, 113 Gravier Street.
1867

Digitized by Google

Digitized by Google

INDEX TO VOLUME II.

A

	Page.
Amputation after Compound Comminuted Fracture	33
Albugo, both eyes, operation	82
Atrophy, left eye	88
Aqua-Chlori	297
Abortion, Criminal	138
Alcohol, effects of	376
Abscess right ant-lobe of Brain	182
American Med. Association	193, 281
Acid, Acetic, in malignant and non-malignant growths	242
Anatomy and Physiology	96, 591
Acid, Hydrocyanic	373
" Uric, test for	373
Abscess, Hepatic	333
Anæsthetics, Nitrous Oxide as	378
Absorption, Cutaneous	384
Anæsthesia, Modern	490
Andes, Quinine districts of	385
Apparatus, Mechanical, after resection of humerus	400
Action of Mental Conditions in Bodily Organism	414
Abscess of Æsophagus	484
Antagonism of Consumption and Malarial Fevers	487
Acupressure	504
Abscess, cure of, in situation of Female Hernia	505
Abdominal Injuries, rest in	507
Asphyxia in New-born Infants	587
Atrophy Optic Nerve	567
Anæsthesia, local, followed by Sloughing	504
Ammonia Hychl. in Senile Gangrene	584
Antidote for Belladonna	584
Another Medical Journal	598
Auscultation by Musical Vibrations	172

B

Bronchitis, Chronic, Etiology of	164
Bougies, Soluble	804
Bowel, Strengulation of	809
Brown, Mr. I.	191, 393
Bronchitis, Gouty	828
Brain, Compression of	881
Books and Pamphlets	191, 598
Birth, Four Children at	852
Bread, Poisoned	871
Bone, rare disease of	218
Belladonna in Scarlatina	875
Blanching of Hair	385
Belladonna, Antidote for	584
Black Deposit in large intestine from mercury	569
Bladder. Ergot in Paralysis of	583

C

Craniotomy	61
Conjunctivitis, Tannin in	94
Ciliary Muscle, Anatomy of	96
Corneal Exudations, absorption of	98
Clitoridectomy	153
Colic and Constipation, Belladonna in	169
Consumption, Pulmonary, treatment of	183
Cataract, Suture of Flap, after extraction	300
Cysts, Ovarian	342
Conjunctivitis, Granular	220
Conjunctivitis, Egyptian	246
Children, four at a birth	352
Correspondence	281, 99
Communications, Original	1, 201, 401
Cataract, new operation for	292
Crytopia	368
Cannabis Indica	368, 377
Chloroform, Syrup of	370
" its action on system	373
Cinchona, cultivation of, in India	273
Cod-liver Extract and Oil	378
Cutaneous Absorption	384
Clifton Hall	390
Consumption antagonistic to Malarial Fever	547
Convulsions, Puerperal	444
Coxalgia	514
Chlorestine Solvents for	517
Cholera, statistics of treatment of	520
Children, Nightmare of	550
Cornea, Ossification of	560
Cornea, cure of Opaque	565
Cysts, Dermoid, of Ovary	571

Digitized by Google

	Page.
Cysticercus Cellulosæ of Brain	571
Cold, its influence on nervous functions	571
Cough as a symptom	579
Cholera, treatment by Sulphate of Copper	582
Cupri Sulph. in Cholera	582
Chloroform as a Therapeutic Ag't	585
Consolidation of Two Medical Journals	595

D

Dislocation of Shoulder	125
Disease, its influence on weight of human body	201
Diabetes, a case of	271
Diabetes, Bran Biscuits in	369
Digitalis, action of	374
Disease of Job	387

E

Ergot in Paralysis of Bladder	588
Edinburgh Letter	99
Elephantiasis	128, 423
Epilepsy from Lead Poisoning	180
Elbow, Artificial Joint of	252
Eclampsia	255, 444
Epiphora	294
Entophytes in Cholera	303
Epilepsy, Strychina in	587
Exchanges	600
Eye and Ear Diseases	98, 282, 557
Editorial	189, 388, 594
Ether Spray in Strangulated Hernia	515
Elephantiasis Græcorum	418
Enlargement of Liver, Fatty	527
Eyeball, Injury of	566
Ear Douche	567
Extremities, Length of Bones of	575
Excessive Development of Vegetable Growth in Human Stomach	568

F

Femurs, Fracture of both—recovery	18
Femur, Osteo-Myelitis of	21
Fever, Spotted	179
" Typhoid, Chloride of Sodium in	340
Fever, Malarial, antagonistic to Phthisis	437
Typhus, followed by Atrophy of Optic Nerve	567
Fever, Intermittent, Ferri Per-Sulph. in	436
Ferri Per-Sulph. by Inhalation	336
Ferri Per-Sulphatis, Hæmostatic Power of	423
Ferri Per-Sulph. in Febris Inter.	486
Fracture of Lower Jaw	84
" Compound Comminuted, case of	88
Fracture of Spine, etc., 3 cases	117
" Compound, etc., both Arms, etc.	121
Fracture, Ununited, treatment of	815
" of Humerus, non-bony union in	497
Funis, Postural treatment of	129

G

Gunshot Wound of Abdomen—recovery	24
Gunshot Wound of Brain—death	26, 215
" " of Bladder—recovery	28
Gunshot Wound of Left Humerus	80
Gout and its concomitants	94
Gland, Hypertrophied, Cervical	519
Galactorrhœa	537
Genito-Urinary Organs, Malformation of	128
Gangrene, Senile, Hydrochlorate Ammonia in	582
Glycerine	377
Growth, Vegetable, in Human Stomach	568

H

Hymen, Imperforate	362
Heated Disinfecting Chamber	379
Humerus, Resection of	400
Hæmorrhage, Per-Sulph. Iron in	423
Humerus, Non-Bony Union in Fracture of	497
Hernia, Strangulated, Ether Spray in	515
Hernia, Femoral, Abscess in situation of	504

Digitized by Google

I, J

	Page.
Irido-Chroiditis, Chronic	81
Inflammation of Iris	107
Intolerance of everything but milk for 25 years	321
Ipecac, a new Syrup of	372
Itch	553
Inversion of Uterus	552
Injury of Eyeball	566
Intestine, Large, Black Deposit in, from Mercury	569

K

Knee-joints, Wounds of	125
" Novel Mode of treating Inflammation of	515
Knee, Pathology of Housemaid's	517
Kidneys, Malposition of	381
" Injury of	121

L

Lactation, Excessive	555
Liver of Vertebrates	383
" Neuralgia of	516
" Fatty Enlargement of	527
Lower Jaw, Fracture of	34
Labor, treatment of, when complicated with Ovarian Tumor	544
Labor, complicated with Rheumatic Fever	360
Leucodermia, Accidental	572
Lard, Benzoinated	287
Lacrymal Sac, Traumatic Rupture of	294
Liebig's Soup	376
Lithia, Salts of	380
Lectures on Obstetrical Operations	539

M

Medicines, Review of New	48
" Absorption of	225
Medical	155, 324, 516
" Journal, Texas	398
" Ethics	391
" Instruction	391
" Jurisprudence	575
" Society, New York	598
Manganese, some Compounds of	598
Morphia, Sub-cutaneous Injection of	171
Morphia, antidote to Belladonna	584
Malposition of Kidneys	381
Muscular Contractions	514
Muscular Force, origin of	383
Mortuary Report	389

N

Night Blindness	99
Neuralgia, Liver	516
Non-Bony Union	597
Nipple, Retracted	146
Narcotic Poison, a new	187
Notice to Subscribers	597
Nightmare of Children	580
New Orleans School of Medicine, Graduates of	195
Nitrous Oxide as an Anæsthetic	378
Naturalist, American	391
N. O. Report of Deaths	296, 392, 596
Narcotine a substitute for Quinine	372
Nerves, Vaso-Motor	382
" Optic, Atrophy of	567
Nervous Functions, Influence of Cold on	574

O

Osteo-Myelitis of Femur	21
Œsophagus, Stricture of	45
Ovariotomy, Double	132
Ovariotomy, twice performed	141
Ovarian Tumor, with remains of Fœtus	81
Ovarian Tumor	544
Ovariotomy	145
" when and how to Operate	546
Orchitis, Acute, treatment of	104
Obstetrical	129, 342, 537
Oxaluria, Artificial production of	426
Obstetric Operations	539
Obstinate Vomiting, from foreign body in utero	557
Otitis Externa	100
Otorrhœa	557
Obituary	189, 388, 389, 594
Onyx	299
Optic Nerve, Atrophy of	224
Orbit, Pulsating Tumor in	563
Ochronosis	572

Digitized by Google

P

	Page.
Placenta, Calcareous Degeneration of	82
Placenta formed throughout Uterine Cavity	87
Placenta Prævia	152
" Fatty Degeneration of	154
Patella, Fracture of, treated by Ring	105
Pyæmia	155
Pertussis, treatment of	318
Pregnancy, Extra Uterine	345
" Twin, suspended development in	352
Presentation, Face	356
Pulsating Tumor in Orbit	368
Pustule, Malignant	571
Prunus Virginiana	364
Pepsin, preparation of	375
Pepsin	375
Priapism from Extravasation of Blood into Corpora Cavernosa	177
Palatable Medicines	33
Pupil, Closure of—operation	79
Patrons, to our	180
Planten, H., & Son	195
Potass Chlor. in Catarrh of Bladder	254
Pannus treated by inoculation	295
Phthisis Diabetical	337
Polypus, Uterine, spontaneous expulsion of	355
Polypus, Uterine, successfully removed	440
Proportionate Length of Bones of the Extremities, etc	575
Paralysis Bladder, Ergot in	583
Pathology	301
Pamphlets received	393, 598
Physiology and Anatomy	96, 591
Paroxysms, Nervous	368
Poisoning by Strychnia	377
Patent Vital Force	591
Paralysis Pylorus	496

R

Report of Deaths in New Orleans	196, 392, 596
Retina, Rods and Cones of	382
Resection of Humerus, mechanical apparatus for	400
Researches into Pathology of Yellow Fever	460
Rheumatism, Gonorrhœal	494
Respiration, Artificial, by Succussion	587

S

Surgeon's Reel and Artery Forceps	338
Surgical Observations	18, 104, 304, 494
Subscribers, to our	194, 195, 597
Stomach Pump, Substitute for	376
Sloughing by Local Anæsthesia	504
Strychnia in Epilepsy	587
Spontaneous Generation	592
Syphilis, Remarks on	54
" Hereditary, in relation to Strumous Diseases	509
Shoulder, Dislocation of	125
Spleen, Hypertrophy of	324
Spleen, Morbid Condition of, in Pregnancy	136
Statistics of Midwifery, Sweden	359
Scarlatina, Belladonna in	375
Strychnia, Poisoning by	377
Secretion, Influence of Vaso-motor Nerves on	382
Stomach, Paralysis lower portion	496
Spina Bifida, treatment of	512
Statistics of Cholera	520
Skin Diseases	538
Squint, Divergent, new method of operating on	561
Sydenham Society	597

T

Tannin in Conjunctivitis	94
Tubercle, what is it?	301
Tumor of Tongue, Vascular, etc	306
Tetanus, Traumatic	307, 311
Tumor, Renal, diagnosis from Ovarian Cysts	342
Tumor, Ovarian	544
Trichinosis	335
Twins weighing 17 lbs	350
Therapeutics and Toxicology	187, 364, 579
Translations	94
Tetanus, four cases of	500
Therapeutics of Cough	679

U

Urethra, constitutional effects of substances introduced into	41
Urethra, Stricture of	365
" Etiology of Stricture of	319
Uterus, Rupture of	148
Uterus, Complete Inversion of, after Delivery	552
Uterus, Obstinate Vomiting from foreign body in	557
Uterine Pathologists	148
Urine, Incontinence of	188

Digitized by Google

V

Vivisection ..... Page 1

W

Wounds of Knee-joint 125
Womb, Incision and Dilatation of Mouth in Dysmenorrhœa 147

Digitized by Google

Digitized by Google

S. A. Brooks to Patton

SOUTHERN JOURNAL

OF THE

MEDICAL SCIENCES.

MAY, 1867.

ORIGINAL COMMUNICATIONS.

ART. I.—*Vivisection:* By J. DICKSON BRUNS, M. D., Professor of Physiology and Pathology in the New Orleans School of Medicine, New Orleans.

"Dat veniam corvis, vexat censura columbas."

ONE of those periodical paroxysms of virtue, which are so characteristic of the moral history of England and America, has recently been raging on both sides of the Atlantic. This time the fit of indignation is directed against the barbarous practices of physiologists; nor has it run the less high because of the utter incapacity of the mass to form any sane judgment on the subject. It is matter of familiar observation that the less men know, the more dogmatic they usually are; and the vulgar are always most readily excited by those appeals which inflame the imagination without addressing the reason. To listen patiently, to deliberate calmly, to decide with caution, is only given to those who, with untiring labor of heart and hands, have struggled up through the long gorge to the serene heights of science; the herd push blindly on in the track of any leader, and fancy their narrow sheep-path the broad highway of truth. But they are not satisfied with having attained the supreme good, unless they can make others enjoy it after their fashion. Your philanthropist lives in an atmosphere of self-complacency that wraps him up like a blanket, and he regards all vision as defective which does not look through his medium. You must see as he sees, and do as he does, or you are no better than one of the wicked. And so

Digitized by Google

it comes about, that in all large communities little mutual-admiration societies spring up, of persons who having themselves attained perfection, feel called upon to coerce their neighbors into the same beatific state; and under the title of "Peace Societies," "Humane Societies," and "Societies for the Prevention of Cruelty to Animals," are the most arrogant and intolerable intermeddlers with things that they know nothing about, and in which they have no concern. Since they are virtuous, they will have it that there shall be no more cakes and ale in the land.

This modern Pharisee, like his prototype, is very particular about the outside of the platter. No matter what you really are, so long as your outward practices conform to *his* idea of decorum. You must crop your hair, you shall wear a particular style of dress, you shall sniffle and drawl in your speech; but you shall not go to a playhouse or take any wholesome recreation on Sunday, or, in a word, do or leave undone any thing but what seemeth good unto him. He is illumined by an inner light, and is the subject of a higher law, of which he is the infallible expounder. Consistency he sets no value on. Toleration is only a virtue when exercised towards himself. Nor will he make any allowance for the differences that may result from race—influence, hereditation, training, or individual temperament. By these signs you may recognize him in all places and in all times. Change of horizon cannot modify, nor the lapse of ages alter his nature. The child may deny his parent, but he cannot do away with the undeniable likeness of lineament and character. The radical and the reformer shake hands across the broad ocean. Faneuil Hall applauds Exeter to the very echo. The hands may be the hands of Esau but the voice is Jacob's.

Now and then, however, to the great delight of the unbelieving, he runs his head against a wall, and, as Mr. Carlyle said of the Austrians, "mashes his foolish face into pancake against the eternal adamant of things." Such an arrest to his aggressive career he is now meeting with, and it is the object of this paper to add a stone to the barricade which men of science are erecting about the field they have long proved their right to occupy, and which they intend, if possible, to keep sacred from intrusion.

It is now some years since the "Royal Society for the Prevention of Cruelty to Animals," sent a deputation to wait on the Emperor of France, Napoleon III, and to represent to His Majesty the cruelties practiced on animals at the Veterinary School at Alfort. The Emperor promised to institute an immediate inquiry, and accordingly a commis-

Digitized by Google

sion was appointed by the *Académie des Sciences*, which after examining into the subject, reported a series of resolutions to the Academy in answer to the questions submitted to them. The animated discussion that ensued was closed by M. Gosselin, whose amendment to the report, as follows, was carried:

"*Resolved*, That the complaints of the London Society are totally without foundation. That there is no occasion to take any notice of them. That in the future, as in the past, vivisectional experiments in the Veterinary Schools be left entirely to the judgment of scientific men."

Having been thus snubbed, the Royal Society next invited an International Congress of all the learned men in the world, to meet in London, for the purpose of discussing the practice of vivisection, and this falling through, it, with noteworthy perseverance, offered in 1865 a prize of fifty pounds for an essay in English, and a premium of one thousand francs for an essay in French, on the following propositions:

1. Is Vivisection necessary or justifiable (when performed as at certain veterinary schools) for the purpose of giving dexterity to the operator?

2. Is it necessary or justifiable for the general purposes of science, and, if so, under what limitations?

Of the eighteen gentlemen invited to act as judges, twelve accepted the office, viz.: The Noble Earl, President of the Society; His Imperial Highness Prince Louis Lucien Bonaparte; Right Hon. and Right Rev. Lord Auckland, Bishop of Bath and Wells; Col. F. H. Buckeridge; Frank Buckland, Esq., M. A.; Dr. Carpenter; J. F. Clarke, Esq., (of the Lancet); Dr. Fraser; Prof. Owen; Dr. Quain; Prof. Spooner; Prof. Varnell. And six declined it, viz.: Right Hon. Earl Stanhope; Charles Darwin, Esq.; Prof. Huxley; Dr. Lankester; Prof. Marshall; Prof. Simonds.

At the adjudication, the prize was awarded to Mr. Fleming, Veterinary Surgeon of the Third Kings Own Hussars, for an essay denunciatory of vivisection, either at veterinary schools, or for the purposes of science, under any circumstances. But as another essay was only in a minority of one vote, a second prize was subsequently given by the Committee to its author, Dr. Markham, F. R. C. P., Physician to St. Mary's Hospital, and formerly Lecturer on Physiology and Anatomy at St. Mary's Hospital Medical School, who approved of vivisection as the soundest means of determining physiological questions, when intelligently and legitimately conducted. It is not difficult to guess what members of the Committee concurred in his views.

Digitized by Google

In obedience to that law of mutual commendation and quotation which we have said is characteristic of such bodies, the New York "Society for the Prevention, etc," has very recently uttered its protest against the horrors of vivisection, in a paper couched in that inflammatory style, and dealing in that reckless assertion, which usually stands the ignorant in place of argument.

Although this is a question which scientific men, if not solely concerned in, are alone competent to decide, we are now put upon our defence before the public, and are bound to show that the charges of wanton and useless cruelty to the helpless subjects of our experiments, are not founded in fact.

Dr. John C. Dalton, Professor of Physiology in the New York College of Physicians and Surgeons, has indirectly replied to Mr. Bergh, President of the New York Society for the Prevention of Cruelty, etc., in a paper read before the New York Academy of Medicine. It was eminently proper that it should come from one of the most accomplished physiologists in America, who is not merely the most successful cultivator and teacher of his branch by the experimental method, but a gentleman widely esteemed and beloved for his many amiable qualities. The paper itself is a well considered digest of the obligations which our science owes to experimental physiology; and if we are obliged ourselves to travel over a part of the same ground, it is an additional proof how thoroughly incorporated those truths are with the history and progress of medicine.

Mr. Fleming's is the first attempt we have met with at a methodical statement of the objections to vivisection. Had he confined himself to his own sphere of veterinary surgery, we should have had nothing to say. But when he passes beyond this, and in an essay as remarkable for its ignorance of facts as for its audacity of assertion, exhausts the whole vocabulary of horrors in his vituperation of experimental physiology, we are forced to retort. Not that the imprimatur of the Royal Society makes it any the less ridiculous; but only that it is the more dangerous to a not inconsiderable class who attach great weight to authority.

To dispose very briefly of the first section of Mr. Fleming's essay, we agree with him that the cutting, tearing and burning of living horses for the sake of acquiring surgical dexterity, which can be as well done, to say the least, on the cadaver, is wholly unwarrantable. We reprobate, as all physiologists do, the infliction of unnecessary pain, when the end sought is at best doubtful, and can be obtained by methods not open to the objection of inhumanity. No one, indeed, has so great an interest

Digitized by Google

as ourselves in suppressing all wanton cruelty to animals, under whatever guise; for aside from that sentiment which we may be supposed to share with all humane persons, it is this abuse of a scientific method which brings reproach upon a most efficient and praiseworthy means of research. But to assert, as the Royal Society does, that "in so far as it concerns animals, it matters not whether the tormentor is a man of high degree or thoroughly debased—whether he is moved by noble purposes or governed by brutal instincts—the sufferings of the dumb, defenceless, sensitive creatures are the same," is almost too absurd a proposition to challenge. The same argument would reduce every surgical operation for the cure of disease or to save life, to the same level with the torture inflicted on his victim by the North American savage, "because the sufferings are the same." A person unused to such sights might turn away sickened from the excision of a cancerous breast, or the Cæsarean section, but it is difficult to conceive of any one so weak-minded as to condemn the operation, "because he could not witness the practice of surgeons, (for *surgeons* read "physiologists, known as vivisections") without a shudder of pain." There are clearly cases constantly arising in our profession, where the maxim, doubtful in morals, that "the end justifies the means," is indisputable. Or, does any one accuse of criminal murder or suicide, the general who orders a thousand men on a forlorn-hope, though he believes their destruction to be inevitable; the martyr who goes to the stake rather than renounce his creed; the woman who deliberately takes her own life to escape a nameless shame, preferring death to dishonor?

Setting aside then the veterinary question as one which does not concern us, except as men not wholly devoid of sensibility, let us examine the charges brought against experimental physiology. Without entering into unnecessary detail, these may be reduced into two categories.

First, that it is cruel, and tends to debase the mind and blunt the sympathies of those who pursue it.

Second, that so far from having led to any valuable results, it has been the source of great error and confusion.

For the sake of convenience we shall consider the last of these propositions first.

Experimental physiology, which in its true sense embraces a variety of procedures besides vivisection, has for its object to determine the functions of organs and their mutual relations. If it be asked what it has accomplished, we answer, that there is not an important fact known concerning the dynamics of the human body which it has not either discovered or illustrated. And first let us interrogate the

Digitized by Google

Nervous System.—Mr. Fleming, in a facetious vein, calls up the shade of Galen—the caustic satiriser of empirics in his own day—to deride "the burlesque philosophy" which applies the questionable results of experiments on rabbits, pigeons, guinea pigs, etc., to an elucidation of the complex phenomena of life in man. Yet up to the time of Galen, says Prof. Owen, while "observation showed the course of a nerve or a tendon to a mass of flesh, it did not own what they did to such mass, now termed muscle. The closest and most persevering observation of the phenomena in the dead body, could only teach the invariable relations of the nerve or tendon to the muscle. When the idea occurred to the Alexandrian physiologist to divide, in the living animal, the several kinds of white cords, called neura by his predecessors, then, and then only, was his science enriched with the power of distinguishing true nerve from tendon, ligament, etc." It was by experiment too that Galen first determined the function of the recurrent laryngeal, and showed its relation to phonation. If the physiology of the nervous system slept a dreamless sleep for centuries after his time, it was owing, not so much to the intrinsic obscurity of the subject, as to the neglect of the only method by which it could be successfully approached. The rich results obtained within the last forty-five years; our knowledge of the reflex function of the spinal cord; of the different attributes of the anterior and posterior roots, and their decussation in the cord; of the true distinction between ganglionic centers and nerve trunks; of the regeneration of nervous structures; of the functions of the cranial nerves; of the sympathetic system, the medulla oblongata, the sensory ganglia, the cerebellum; of the transmission of sensory and motor impressions, and their rapidity, and a mass of facts concerning general and special sensation, have been wholly due to experiment; imperfectly and obscurely aided by the testimony of our own consciousness, and the manifestations of disease. As if the case had been made on purpose to illustrate the valuelessness of mere observation, twelve years after Sir Charles Bell and Magendie had demonstrated by vivisection the different endowments of the spinal roots, Mr. Walker, of Edinburgh, published his claim to priority of discovery, asserting that he had theoretically shown that the *anterior* roots were *sensory*, and the *posterior*, *motor*—just the reverse being true. And he goes out of his way to revile as dolts or drivellers those who rely on experiment, falsely imagining that eyes and fingers can be a substitute for brains. Now—*nomine mutato, de se fabula narratur.* Shall we turn to

Respiration? What do we know of its nervous centres and excitors;

Digitized by Google

of its essential nature; of the reason why a limited volume of air in which an animal is confined, diminishes in volume and becomes unfit to support life; of the atmospheric element which disappears under these conditions; of the nature and causes of asphyxia, of its relation to the rate of life, temperature, age, etc., which is not entirely due to experimental research? If we take up the subject of

Digestion, the answer is still more emphatic. As an illustration of Mr. Fleming's knowledge of the history of physiology, and his capacity to sit in judgment on its evidence, we will quote a single paragraph from him: "Reaumur," he says, "observing digestion only in birds, which have a strong muscular gizzard, came to the conclusion because this organ was capable of grinding hard substances, that trituration was the essential principle of digestion. To study digestion as it is in man, what wisdom is there in experimenting upon a ruminant animal, with three or four stomachs to digest a vegetable diet, a carnivorous animal with a stomach adapted only for flesh, or a creatnre that feeds almost exclusively on grains. And yet we find that Sir Astley Cooper drew his deductions from experiments on the dog, a carnivorous animal, and applied them to man, an omnivore. When noticing digestion, I may call attention to the opposite results which vivisectors have obtained in their experiments upon it. A most inhuman man, a Dr. Brachet, divided the pneumogastric nerves in a dog, after allowing it to become ravenously hungry, and found that it had lost all desire for food. Dr. Reid, of Edinburgh, repeated the experiment several times, but without success."

Now the facts are, that up to the time of Reaumur, the act of digestion was supposed to be purely mechanical; it being thought that the stomach ground down the food to a pulp by its motions. Reaumur at first shared this view, but afterwards put it to the test of actual experiment, by making a dog swallow hollow perforated balls containing meat. After allowing these to remain in the stomach for some hours, he withdrew them by means of an attached thread, and found that the meat had disappeared. Varying the time during which the balls were suffered to remain in the stomach, he demonstrated that the meat was as fully, though more slowly digested, as when not so protected; and that digestion was accomplished therefore by the action of the solvent juice of the stomach, and not by any mechanical power, the action of the gastric juice beginning on the outside of the bolus and gradually reaching the centre.

Whatever error Sir Astley Cooper may have been led into, from not

Digitized by Google

taking into account the nature of the animals he experimented on, was one not unlikely to occur with a pioneer in this field, but is scarcely possible to be overlooked by a physiologist of to-day. Since Cooper's time, the labors of Lehmann, Corvisart, Koopman, Brucke, and others, have shown that while the strongly acid gastric juice of carnivora is best adapted to dissolve animal albumen, the weaker acid of the herbivora accomplishes the solution of vegetable albumen or gluten with much greater facility. A very useful guide in prescribing the diet of persons whose stomachs are in an enfeebled condition.

The results of Dr. Reid's experiments on the effects of section of the pneumogastric, which have since been corroborated by Bidder and Schmidt, so far from negativing those obtained by Brachet, confirmed them. For they showed that the digestive power was suspended for some days, but recovered itself eventually if the animal survived the shock of the operation.

How far the secretion of the gastric juice is under the control of the nervous system, or by what channel such influence is conveyed, is still matter of discussion. The well known effect of mental emotion, as of sudden and intense grief or joy, in putting an immediate stop to the digestive process, shows that some such influence is exercised; and much of the contrariety observed in the results obtained by different experimentors, may be owing to the point at which the pneumogastric is cut—whether above the inferior laryngeal, and so affecting the respiration, or at the œsophageal opening, involving section of the sympathetic. "Seven out of Dr. Reid's experiments," says Dr. Carpenter, "were performed before he obtained any evidence of digestion after the operation, and the four which furnished this followed one another almost in succession. So that it is easy to understand why those who were satisfied with a small number of experiments, should have been led to deny it altogether."

As if to rebuke physiology for its want of boldness in interrogating Nature directly, when her processes are hidden from sight, a rare accident gave Dr. Beaumont an opportunity of studying gastric digestion in the person of Alexis St. Martin, in whom a gastric fistula had been established, as the result of a gunshot wound which carried away a portion of the abdominal wall. To those observations our science is incalculably indebted; and by imitating, on animals, the same kind of experiment which had at first been accidentally performed on man, we have corrected the errors into which Dr. Beaumont fell, and can now give an almost perfect account of the whole process of stomach digestion.

Digitized by Google

Our knowledge of intestinal digestion rests absolutely upon experimental research. For as the pancreatic fluid and the bile are emptied close together into the upper part of the intestinal canal, it is only by obtaining these secretions separately, through pancreatic and biliary fistulæ, that we can study their nature, and their influence on different articles of food. And by the same method we have learned all that we know of the phenomena of absorption, the office of the lacteals, the changes which take place in the chyle during its passage through the mesenteric glands and thoracic duct, the function of the spleen, the physiological relations of the portal circulation, and the glycogenic function of the liver. All the truths concerning the

Circulation—that the arteries are blood-carriers, like the veins, and not filled with air; that the blood coming to the right side of the heart passes round to the left side, by performing a circuit through the pulmonary vessels, and not directly through an interventricular septum; the direction in which the blood flows through the veins; the uses of the valves in those vessels; the nature and object of the heart's movements; the coincidence of its systole with the transmission of blood through the arteries, of its diastole with the delivery of blood to it through the venæ cavæ and the pulmonary vein; the continuity of the arterial and venous circulations; the rate of movement of the blood and the degree of pressure exercised by it in different parts of the vascular system; the forces which maintain the capillary circulation; the peculiarities of the circulation in the lungs, in the portal system, in the brain, and the modifications produced in the latter by variations in the general conditions of the circulating system, could not possibly have been ascertained in any other way than by direct experiment on living animals.

Such is briefly an outline of the principal discoveries which physiology has made, by means of its most valuable and trustworthy means of research, *vivisection*. To enter into the detail which some demand, would be to write a history of medical science. For this we have neither the space nor inclination. It has been done, and well done, again and again, until the story is as tedious as a twice-told tale. Nor is there any inducement to enter the lists against a class of sciolists, who, finding it easier to doubt than to examine, puff away the strongest evidence with a contemptuous sneer.

To estimate its value, is only to become acquainted with the progress of medicine in all its departments, a progress indissolubly bound up with the advances of physiology and anatomy. He has but slight appreciation of the scientific spirit who asks of any knowledge, "what advan-

Digitized by Google

tageth it?" The discoveries which have been of greatest usefulness to our race were not made with any reference to their utility. They have always been unconscious workers, building better than they knew, simple-minded and single-hearted men, loving truth for its own sake, to whom God has given "the vision and the faculty divine." Very rarely has it been vouchsafed to them to reap the fruit of the seed they sowed. But all history is full of examples of the benefits which have accrued from the application of truths which seemed at first to be but barren and isolated facts. Those who believe all knowledge to be useful as a discipline, as well as a means to an end, will pursue its acquisition without stopping to inquire what result will come of it; the while not unaware, that from the storehouse of facts which the toil of centuries gathers is supplied the material for those wide generalizations by which great principles are afterwards evolved and great laws established.

The fact is, that so far from overestimating, it is difficult for us fully to appreciate the service which medicine has derived from this department of science. Her greatest discoveries have become so incorporated with our elementary knowledge, which they underlie, that, like the air we breathe, the water we drink, they seem cheap and common. But if any one could strip himself of all that he has learned through "experimental physiology," he would stand aghast at his ignorance of the simplest guides of practice, and the most trivial facts of pathology. This, which is impossible to individual experience, can be accomplished by a comparison of the unknown and unstable ground on which our predecessors of only the last century stood, with the secure and firm footing we now enjoy. Without an acquaintance with what experiments on living animals have taught us of the nervous system, of respiration, of the circulation, of digestion, of nutrition, of animal parasites, what would we know of hysteria, of paralysis, of tic douloureux, of those sympathetic disorders of organs which make up so large a part of the phenomena of disease. We would still be cutting the seventh pair of nerves for facial neuralgia, and bleeding, blistering, firing and purging anæmic women for fancied spinal lesions. Our operation for the cure of aneurism would still be irrational and mischievous. We would be in utter darkness as to the cause of asphyxia, and therefore unacquainted with the means of restoring life through artificial respiration. The phenomena of inflammation would remain a hidden mystery; the diet and regimen of the sick be regulated by custom and caprice, and a case of trichina disease, mistaken for acute rheumatism, would fill us with amazement at its intractable nature and fatal termination. These constitute some of

Digitized by Google

the more obvious errors which a sound physiology has corrected; but our art is so wholly indebted to her for all of accuracy that it can boast in diagnosis, pathology and treatment, that, as we have already said, to consider the subject in detail would be to expand an essay into a volume. Rational medicine recognises in "experimental physiology" not merely a willing, accomplished, and untiring servant, but an *alma mater et nutrix*. When, therefore, it is affirmed that vivisection is useless for the purposes of science, we need only turn to the history of medicine, every page of which illustrates its immeasureable value, to set the seal of falsehood on the assertion.

But it is further alleged that it has led to much error and confusion. This was at first inevitable. It has for its object to discover the functions and relations of the various organs of the human body. Its experiments, therefore, must be performed on those animals most nearly allied to man in the scale of being. Now the higher we rise in that scale, the more complex we find the organization to be, and the difficulty of securing the necessary conditions for isolating the special function that happens to be under examination, from the disturbing influences of other organs, increases *pari passu* with its importance to the life of the whole. From the accumulated experiences of others, as well as our own, we gradually learn to separate what is accidental and variable from what is essential and constant. Whatever errors may have arisen are corrected, whatever truths may have been elucidated are confirmed by the labors of our co-workers; and thus, by accretion of knowledge, acquired tact and dexterity in method, and finer and more numerous instruments of research, we gain, day by day, that skill and confidence which give increasing accuracy and value to our labors.

If he who asserts that physiology has performed no useful work, is ignorant of the history of medicine, he who charges it with uncertainty is ignorant of the history of science.

All the sciences have passed through certain phases, which are not merely a part of their common history, but an expression of those fixed conditions of human thought in obedience to which every system of philosophy has evolved itself. The organical sciences have proved no exception to this universal law of growth. The fundamental ideas, upon a proper appreciation of which the development of each depends, are at first but vaguely apprehended. Only by slow degrees do the conceptions arising from these distinctly shape themselves, and not until they have been worked out with perfect precision are those positive truths discovered which make possible the successive generalizations that crown and complete the work.

Digitized by Google

It follows then, if each science is based upon certain fundamental ideas, themselves containing the elements of those truths which the science afterwards developes and formulates, that its certainty will depend on the correct apprehension of the conceptions involved in these, and its progress on the demonstration of their accordance with observed facts. But where general laws have to be deduced from isolated phenomena, and true theories constructed on limited data, in attempting to unfold the fundamental idea, large space for error must of necessity exist; more especially as the first advances have to be made through hypotheses alone. As experience corrects the faults, and observation points out the deficiencies of these, the circle is gradually narrowed, until a point is finally reached from which a more certain method of progress becomes possible.

This, which is true of all the inductive sciences, has also been the history of physiology—with this difference, that the greater complexity of the phenomena with which she has had to deal, and, by consequence, the deeper profundity of their laws, has assigned her a lower grade of progress than has been attained by those sciences whose relative simplicity has made possible, thus far, a higher degree of development.

Much time, we admit, has been wasted in a fruitless attempt to form a distinct conception of life, and to discover the causes of vital action. And it was a great step taken in the right direction when physiology, abandoning this hopeless search, began the examination of the vital functions separately, with a view to determining those relations of similitude and succession which are denominated laws. But as such a movement implies a scientific classification, and as any effort to decompose so complex an idea as life, presupposes an extensive acquaintance with the relations of individual organic actions to the organism, the analysis can never be completed until the totality of the functions is thoroughly comprehended. This is the task to which "experimental physiology" stands pledged, and just in proportion to the activity with which it is prosecuted, will our conceptions of the processes of organic life become correspondingly clear and definite. It is by such a method alone that we can hope to arrive at that ultimate synthesis for which we are now collecting and classing the material. And the splendid triumphs it has won during the last half century, demonstrate beyond a shadow of a doubt its certainty and value.

If the method then be correct, what can be said of the means of research. To wait on the infrequent opportunities afforded by "the experiments performed for us by Nature," would be a most tedious and

Digitized by Google

uncertain labor at best. But this is the least objection that can be brought against it. The graver and insurmountable ones are, that we cannot prescribe the conditions of such experiments, and are left therefore without any method. When the disease is one of an internal organ, moreover, we can never be certain to how great an extent that organ is affected, or whether others are not also involved. The sharp, clean blade of a scalpel, directed by a skillful hand, does its work efficiently and appreciably; but disease is a bungler, not confining its operations to a point of elèction, but embracing in its erratic processes of irritation, congestion, inflammation and destruction, a wide area of neighboring tissues. To affirm, in one breath, that observation of the phenomena of health and disease is quite sufficient for all the purposes of science, and in the very next to raise the objection against experimental physiology, that its results are so obscured and vitiated by the shock which its surgical procedures occasion that nothing but confusion and error can follow, is monstrous. The vivisector is generally able to predict the amount of shock which an operation will give rise to, and knows very well to wait until this, usually slight, has disappeared. But who can measure the disturbance of the vital forces in disease, when the springs and balances are no longer in harmonious relation, and the whole machine is violently disordered—the nervous system oppressed, the secretions deranged, and the life of all the blood touched corruptibly. The study of morbid phenomena is useful as confirming, illustrating, and occasionally enlarging the knowledge derived from another source; but the very power of interpreting these phenomena correctly is gained from our previous acquaintance with the laws of health, and for this, as we have seen, we are almost wholly indebted to experimental physiology.

We might be content to leave the matter here, considering the charge of cruelty as sufficiently answered in demonstrating the utility of experiments on living animals. For surely it will not be denied that if the knowledge thus gained is of eminent value in lessening human suffering and saving human life, it is legitimately obtained at the expense of pain or death to any number of inferior animals. But as the charge is one of brutality as well as incompetence, it may be worth our while to consider how far it is either true or consistent.

And, in the first place, the pain inflicted in experiments on animals is on the whole very small. Many of them, endowed with an inferior organization, suffer far less than man would from the same amount of injury. Their cries, and struggles, and movements, however purposive

Digitized by Google

the latter may seem, are not always to be taken as an evidence of suffering. This is a matter upon which only scientific men are competent to pronounce, and it can be proved that in many instances they are nothing more than exhibitions of reflex action. Every one has seen the headless trunk of a chicken, just decapitated, jump about in contortions whose violence would seem to indicate the acutest agony. But the uniform testimony of those who have suffered injury of the spinal cord is, that there is absolute insensibility of all the parts below the seat of lesion, where this has been complete.

If a frog be pricked with a scalpel, it may raise its leg and push away the knife, or hop off. If its head be now cut off and the puncture repeated, it will endeavor to remove the cause of irritation in the same way. If, after decapitation, a drop of strong acetic acid be applied over the internal condyle of the femur, it will wipe away the acid with the foot of the same side, but if this be amputated, it will after some ineffectual efforts perform the same action with the foot of the opposite side; this extraordinary energy of the spinal cord as an independent centre, which is always in inverse proportion to the development of the cerebral hemispheres, is no proof of any special endowment of the cord in the lower animals; nor is the adaptiveness of the movement any evidence that it takes place through the mediation of sensation. The same phenomena are manifested by apoplectic patients and anencephalous infants; and since Marshall Hall directed special attention to the subject, a large number of paraplegic cases have been accumulated, the facts obtained from which, enable us to give a positive affirmation on the subject. Indeed, many of the most complicated actions, requiring the coördination of a great number of muscles, are wholly involuntary, and some of them the will cannot even imitate; as the act of deglutition, which requires that the fauces be stimulated. In the act of sucking, which is perfectly performed by brainless infants and puppies, and in the acts of coughing and sneezing, the muscular combinations are effected without any design.

What blunders unscientific persons are likely to commit when they sit in judgment on such cases, is happily illustrated by Mr. Fleming, who, unconscious of the gentle irony of the anecdote, quotes Dr. Elliotson as saying: "I am sure that the following experiment would have caused Dr. Brachet to be blackballed in any respectable society in England, for a physiologist was blackballed at the Royal Society from the horror excited by an account read just before, of an experiment in which rabbits' heads were crushed, though, *on reflection, it was found that these*

Digitized by Google

experiments were unattended by pain, and he was honorably elected on an early occasion."

In the next place, animals are usually rendered insensible by the inhalation of chloroform, ether, or the smoke of the "puff-ball," before operations are performed on them, and during the experiment, except where the nerves of sensation are the subject of examination; and in the latter cases the determination of the point on which information is desired is soon settled, and the animal put out of pain. Even in such cases the suffering is much less than is popularly supposed, for it is only on irritation of the spinal ends of the nerves that sensibility is manifested, all the parts supplied by such nerves being insensitive after section of the latter.

The popular clamor against the barbarity of slicing, puncturing and lacerating the brain, is a mere waste of breath. So far from inflicting "an amount of torture which the mind shrinks from contemplating," it is unattended by any sensation whatever. The entire organ may be cut away piecemeal without the animal exhibiting any evidence of pain. Nor, like the cerebrum, have the nerves of special sense any endowment of common sensibility. The slightest cut of the skin, the most sensitive portion of the whole organism, gives rise to greater suffering than any amount of injury inflicted on the cerebral hemispheres; but it excites less sympathy because it does not *look* so cruel.

And what can be said of the consistency of those who claim immemorial usage as a sanction for inflicting suffering on birds, beasts and fishes, for pleasure, ornament or support, and deny the same right to the physiologist, though he finds in experiments on living animals the only trustworthy method of enlarging the bounds of a science whose discoveries have been a greater boon to humanity than all the other arts and professions practiced by man.

But "to kill is one thing, to torture quite another," the sentimentalist replies. "The ox dies by a blow on the head, and his sufferings are at a minimum." Suppose we grant that this gentle euphuism about the blow on the head is quite satisfactory as regards the ox; do cattle, sheep, calves, pigs, hogs, as well as oxen, suffer nothing along their road to market, over-driven or penned in suffocating railway carriages, without food or drink, through the long summer day? Are they all killed by a blow on the head? or are not the great majority of them hung up by the legs, to have their throats cut and to die in the convulsions of hæmorrhage? Does the pietist whose heart is torn with cruel indignation at the thought of a sparrow's death under the air-pump, shrink from

Digitized by Google

the bare sight of a *pâté de foie*, or reject shellfish with horror, mindful of their agonies in the boiling pot? Does the fair, whose conscience is

> "So charitable and so pitous,
> She wolde wepe if that she saw a mous
> Caughte in a trappe, if it were ded or bledde,"

ever think with what suffering of snare and gun, and dog, the plume in her bonnet, the sable on her robe, the soft slipper, the delicate glove, the fragrant perfume have been procured?

The Noble Earl himself, President of the Society for the Prevention of Cruelty to Animals, has sometime in his lusty youth ridden to hounds. Perhaps he has felt the exhilaration of "the meet," on some crisp November morning when all the fields were white, and the hedgerows sparkled with the sharpened daggers of the frost. What a glow as the wind rushed by the tingling ear like a storm! What a triumph that double ditch and bank that threw out half the field! And the glorious run when the horses warm up to their work; and the splendid brush at the close; and the maddening cry of the hounds, thirty couple, "deep-mouthed and matched like bells;" and the sudden silence as though every throat were paralyzed in an instant, and the supreme moment in the midst of the wrangling pack, every eye bloodshot with fury, every muzzle eager for a grip of the hated fur. From "breaking cover" to "finish" did his lordship once draw rein to reflect on the torture of the panting and draggled wretch he was hunting to death; or does he hold with the Ettrick Shepherd that the fox enjoys it as well as the men and the horses?

Are any of the members of the Royal Society for the prevention of cruelty to animals, sportsmen? If so, have any of them ever had the curiosity to go through the covers with the game-keeper a day or two after *abattue*? How many birds with broken wings, dying by slow tortures have they picked up? How many hares limping about with mangled limbs, some mortifying, all inflamed and exquisitely painful, have they seen? Or what excuse will be offered for the barbarous amusement of fishing?—have trout and gudgeons and worms no feelings? And if man may claim dominion over the beasts of the field, and may hunt and destroy them, not for food or for support, but for the gratification of taste, or the relaxation of mind, or exercise of body, or in mere wantoness, without reference to the pain he inflicts, shall he be denied the occasional use of them for the advancement of the noblest work that can engage his energies, even though that use involves at times a suffering almost equal to that which the rod, the gun, and the trap inflict?

Digitized by Google

Ont! with such puling sentimentality—such mockery of the divine essence of charity. If the Royal Society wants some real beneficent work to do, let it go down into the reeking slums of Westminster where Lazarus lies in rags, almost at the gate of the queen's palace; or into the still fouler atmosphere of St. Giles and Whitechapel, poisoned with every moral as well as physical abomination; or into the starving districts of East London, and feed the hungry, and clothe the naked, and give light to those who sit in the shadow of death. "Are not these of more value than many sparrows?"

When Christian Englishmen were blowing Sepoys from the mouths of cannon, and murdering Princes in the face of day, and sacking cities with sickening outrages, the Royal Society uttered no protest. Let her batter at the doors of Parliament until the hand is taken from the throat and the knee from the breast of prostrate India, every foot of whose soil has been won by rapine and murder, from the days of Clive to Campbell, India! which, when the British savage was running wild in his unhewn forests, was possessed of a civilization whose magnificence is still attested in the ruins of her gorgeous architecture, the brilliant fragments of her letters, and the mutilated body of a religion whose moral code is only inferior to that which our Master himself taught. When it has purged the common weal of such enormities, we will be more willing to listen to it on the minor canons of the law.

Nor has the child anything to boast of over the parent. When a victorious army was making a desert of the fairest garden that ever sun shone on, and cutting through the heart of a State that had suffered more than any other in the cause of American freedom; a swath of such savage desolation as history furnishes no parallel to except in the Carnatic and La Vendee; when every mansion, from the banks of the Savannah to the waters of the Pee Dee was left a blackened heap, and her beautiful capitol laid in ashes; when high-born matrons in the pangs of childbirth were dragged from their beds, to perish with their undelivered babes, without shelter or covering; when old men were tortured to make them reveal where they had hidden their treasure, and some of them hung by the neck until they were dead; when trembling women were robbed with pistols at their bosoms; and cowering children had the last morsel of food snatched from their famished lips, and a whole country was left in beggary and ruins, the Peace Society of New York, and the New York Society for the Prevention of Cruelty to Animals, were silent. But no sooner had the overthrow of the South been accomplished, than the first issued an appeal for aid to resume its labors, which,

Digitized by Google

with exquisite mockery of its avowed mission, it said "had been suspended during the war;" and the latter, with a view to securing legislation on the subject, addressed a letter to Mr. Agassiz, inquiring "whether turtles do not suffer when turned on their backs?"

And when, on the ninth of March, in the year of our Lord and Saviour, eighteen hundred and sixty-seven—hear it not, ye Heavens! Mr. Trumbull introduced a resolution in Congress, to appropriate a million and a half of dollars for the relief of the famishing South, stating that Gen. Howard, of the United States Army, had appeared before the joint committee to say that unless an appropriation of this kind was made, great suffering would ensue, as the present appropriations were all for freedmen and loyal refugees—*the resolution was voted down!* Yet such is the wide-spread and appalling destitution, that one Governor tells us there are fifty thousand souls perishing in his State alone for want of corn. And, amid all this, the New York Society for the Prevention of Cruelty to Animals is dumb. Sympathy enough and to spare for foreign rebels and insurgents, for Greeks, and Irish, and Africans—and turtles; but for their starving countrymen, not one crumb! "First cast out the beam out of thine own eye, and then shalt thou see clearly to cast the mote out of thy brother's eye."

ART. II.—*Surgical Observations. Fracture of both Femurs—Union on the Thirty-third, and Patient Walking with Crutches on the Forty-eighth Day:* By J. THEUS TAYLOR, M. D., of New Orleans.

CASE I.—The subject of this paper, J. W., æt twenty, a native of this city, of scrofulous diathesis, had right morbus coxarius in infancy, and falling from bed broke that femur. The bone becoming extensively diseased, was resected by Dr. Stone, many years ago, and, after protracted suffering, a cure was at last effected, the limb being shortened about four and a half inches.

On 10th Dec. last, at nine, A. M., the patient, whilst attending as clerk in a lumber yard, was crushed between two piles of plank. I was called to see him, and found both femurs badly fractured in the middle third, the bones being broken into several fragments. He was made as comfortable as possible by pillows, anodynes, cooling applications, etc.,

Digitized by Google

until a suitable apparatus could be prepared; and it was ten, A. M., the following day, before the dressings were applied. I used the fracture frame of Dr. J. T. Hodges, favorably noticed in Europe (vide Druitt, ninth edition, page 281–82) but strangely neglected here, modified for the occasion; I was no stranger to its merits, having often tried it with advantage in the Confederate States' service. I added a common footboard, nine inches wide, to which the four side strips were fitted by mortises; and midway between these two central strips (the upper being feathered so as not to press upon the inside of the thighs, and three inches shorter than the others); and all these strips were supported by three upright pieces properly shouldered, and screwed fast thereto at the middle of the upper third. The three bottom strips on which the frame rested, were held firm by a cross-piece two by two and a half inches, which had three mortises in the upper face to receive them. I found it necessary to make this addition the next morning, on account of the too great mobility of the apparatus without it:—1st, the fractures were reduced so as to restore perfect symmetry of limb. 2d, adhesive extension straps, two inches broad, and two feet long, were attached in the usual way to both limbs. 3d, Sculteter's bandages were applied, and over these, eight fracture splints protected by lint (the two bottom ones of gutta-percha, and the others of pasteboard) were carefully secured from the knees to the trochanters by the same method. 4th, the fracture frame above described was then slipped on from below upwards, and the feet secured to the foot-board. 5th, I proceeded to complete the dressings, beginning from above, and strap by strap formed the double inclined plane. The ordinary stout bandaging material, three inches wide, was used for this purpose, being passed under the limbs, and secured as they were adjusted to the upper and outer strips of the frame by tacks. The two first straps were supported alone by the two outer strips; but all the rest were equally supported by the centre feathered strip over which they passed.

As soon as the apparatus was completed, the patient experienced great relief, and made scarcely a complaint during the four and a half weeks it was worn, except at times when it became slightly displaced from too much motion.

Dec. 17.—Weights were attached to the extending bands by cords, which worked in the grooves of the rollers of the frame, exercising just enough power to counteract muscular contraction. The hips and back were supported by air-cushions, carefully sponged every day with whisky and water, and well rubbed with the hand. It was quite easy to

Digitized by Google

tighten the bandages or splints at any time, without disturbing the patient in the least degree, and this, of course, we were compelled to do from time to time.

During the first nine days, the usual febrile reaction occurred, which was, however, readily controlled by anodynes, cooling draughts, and suitable regimen; afterwards the case progressed favorably; the most nutritious diet, wine, etc., were freely allowed, and were so well relished and digested, that he increased several pounds in weight whilst undergoing treatment. The bowels were regularly moved every morning. On the thirty-third day the apparatus was removed, perfect union having taken place in both limbs, and the gum Arabic and prepared chalk dressings substituted. The splints were still retained as before, except that the two gutta perchas were exchanged for pasteboards. On the forty-sixth day these bandages were removed from the legs, but the casings were ordered to be worn on the thighs for some time, to guard against refracture by a fall; and the patient was permitted to walk with the assistance of crutches, of which he gladly availed himself, and in a few days reported at my office, cured.

The right limb, which as already stated, was, before the accident, minus four and a half inches, was cured without any loss of length, but the left was shortened about half an inch.

The reason why I would especially desire to call the attention of the profession to this modified apparatus, is because it has *better fulfilled all the indications* requisite for the successful and rapid treatment of this grave variety of fracture, and with less inconvenience to the patient, than any other I have ever seen applied. It is almost as soothing to the sufferer as a cradle to a sick child. The body floats on air-cushions, the limbs encased in well fitting bandages repose lightly on gently inclined planes of soft material; and it is so easy for him to *change at will the position* of the body without any injury to the limbs, or danger of displacing the dressings, that all the agony and even the tedium of long confinement in *one position* (the hitherto curse of such cases, involving bed sores, and sore heels and groins from extending and counter extending appliances *à la Dessault*) are avoided. A few dollars will pay for the frame, and any common carpenter can make it in a short time. No costly contrivance is required to enable the bowels to be evacuated; but a flat bed-pan gently slipped under the hips answers the purpose, it being only necessary afterwards to *replace the body* (if disturbed) *in a line with the apparatus*.

The principle on which this apparatus acts is beautifully simple; the

Digitized by Google

weight of the body representing the counter-extending, and that of the frame, limbs, and weights thereto attached, the extending force; either of which may be increased or diminished at will by raising or lowering the foot of the bed.

But however excellent this method may be in civil practice, it will be found infinitely more applicable to military surgery. The dressings are light, airy, and clean (three of the great requisites, especially in large hospitals crowded to the greatest capacity); and whenever any of the supporting or enveloping strips of bandage become soiled, they may readily be changed for fresh ones *without moving the support in the least.* Cleanliness is the great advantage of the many-tailed plane; otherwise two pieces of cloth, one for the leg, and another for the thigh, attached by eyelets to the frame, would be much easier of application. It is a matter of no small importance, as every one knows who has seen service, thus to be able, in a few minutes, to sponge and cleanse limbs, and tighten or change bandages, constantly soiled by suppurating gunshot wounds.

The foregoing case has suggested to me another of peculiar interest, in connection with the subject of fractures; and as it is quite unique (for I have not had the good fortune to find its counterpart in any of the books) I take pleasure in giving it publicity through your widely circulating journal. I will likewise add several other observations made on our Mansfield wounded, of whom I had charge as surgeon-in-chief.

Case II.—*Osteo-Myelitis of Femur—Death by Hectic.*—A Confederate soldier received a gunshot wound (Minnié ball) at the battle of Mansfield, April 8th, 1864, shattering the left knee and lower third of femur, necessitating amputation, which was performed on the tenth, by Assistant Surgeon Brubecker, C. S. A., the circular method being employed, between the upper and middle third. The case progressed favorably for about three weeks, and the wound was almost entirely closed, when he grew hectic, complained of excruciating pain in the stump which could only be assuaged by chloroform and morphine. Soon the lips of the wound began to gape, and an apparently fungous growth, which increased with astonishing rapidity, protruded. I directed its removal by a double ligature of silver wire, but it was found impracticable to pass the needle, and it was with much difficulty cut off by a strong sharp knife; and being minutely inspected was found to be *cartilaginous* in structure, with abundant deposition of *ossific matter*, which gritted under the knife.

Next morning, using chloroform, without which the wound could not

Digitized by Google

be touched, owing to its excessive sensibility, I made a thorough examination, and found that the remains of the morbid growth had no connection whatever with the *surrounding tissues*, or the femur, but sprang *directly* from the *medulla* itself; around which, for several inches, I gently passed a female catheter (an admirable probe, by the way, in many cases), and, to my great regret, discovered that the bones were carious the *whole length* of the cavity. The process of disintegration had commenced with inflammation of the medulla and medullary membrane, soon involving the endostium, and through it the bone itself, proceeding from the centre to the circumference; but the periosteum at the point of section, and as far up as could be explored, was of perfectly healthy color, and so *firmly adherent* to the bone that it *could not be separated from it.* I at once decided that the only chance for the poor fellow was resection at the trochanter major, as he was too much exhausted to live through the process by which the carious bone could alone otherwise be got rid of. But his condition rendered it certain that he never could stand an operation of such magnitude. We therefore had to content ourselves with assisting elimination by the application of dilute nitric acid, and controlling pain by anodynes; and in a few days put an end to his sufferings. The post-mortem confirmed our diagnosis, the femur being found carious as high as the trochanter major, and presenting a worm-eaten appearance; yet, strange to say, even under these circumstances, the *periosteum was untouched by disease.* The tumour and femur were preserved, with the view of having them placed in some museum, but were unfortunately lost.

I have often regretted that the resection was not practiced immediately; as by taking up the femoral artery, it might have been done without loss of blood; and the man would have been put in the most favorable condition possible for recovery. We have seen, in this instance, an inflammation attacking the medulla, and extending to the bone through the endostium which it destroyed; yet cases are numerous where hollow bones become carious without involving the medulla or its membranes. Centric inflammations, therefore, more readily proceed from the centre to the circumference, than do the eccentric in the opposite direction.

One other such case, likewise resulting fatally, was reported to me by Surgeon Hollis, as having occurred in his Division Hospital, about the same time; and he particularly noticed the singular rapidity of growth, and the bony nature of the tumour; but he had not made so careful an examination as I did before death, and none afterwards.

Digitized by Google

Osteo-myelitis thus happened twice among our amputated, at Mansfield, who may be estimated at about one hundred; being a ratio of two per cent. It is of much more frequent occurrence in the great hospitals of Europe where it is regarded as a kindred disease with pyæmia, and its great prevalence and deadliness have induced surgeons as much as possible to avoid all operations through the medullary cavity. There can be no danger of such an event where we operate through the solid portions of the bones, or through the joints; hence it is that these last especially, are now regarded with unusual favor by most of the greatest surgeons of the day. When we consider the rude manner in which the delicate marrow is torn by the saw, in making a section of a hollow bone, it would seem that this terrible mode of death should much more frequently occur. I had, on this account, resolved to avoid such lacerations in future operations, by dividing the medulla with a delicate knife, a little above the line of bone section, before sawing through. This could readily be accomplished by arresting the saw as soon as the cavity was reached, and sawing out from below upwards a slice of bone large enough to admit the knife; or the blade might be passed through the furrow made by the saw, without any additional opening. However, the conclusion of the war put an end to this with many other contemplated attempts to advance and perfect our art; and I merely mention it here with the hope that it may, perhaps, be tried by others. One thing, however, is quite sure, *I will never again saw through a medulla.* Often have I seen pyæmia produced by rude traction upon arteries and veins in applying ligatures, and why should not the same, nay, much greater violence to the medulla and the medullary membranes, produce myelitis?

There is yet another point of view in which this case has an important bearing, viz.: that, as before stated, the medullæ and medullary membrane, entirely disconnected from other tissues, were yet found to be *capable of generating ossific matter*, which has mostly been hitherto regarded as a secretion of the periosteum, being a deposition from without to within (Virchow, to be sure, tells us otherwise in his Cellular Pathology.) Hence, in *all operations* on bones, it has been the established rule to save as much of this bone-producing membrane as possible. Now the important question arises, whether *non-pathological projections* of ossific matter from the medullæ, may not, in like manner, be found to take place proceeding from both ends, enosculating with each other, and becoming the centres of those bone formations which so often fill up the gaps made by those operations, in a wonderfully short time? As be-

Digitized by Google

fore stated, the growth of these ossific formations was noticed to be singularly rapid in both cases. It is rather a curious coincidence that only a few days before their occurrence, several surgeons and myself had been discussing the physiology of bone tissue; and having no data by which the apparently well established doctrine could be questioned, much less invalidated, we had to concede that it was in truth a secretion of the enveloping membranes, the periosteum and endosteum. Yet, nevertheless, as in many instances we had observed reproduction of bone accomplished under circumstances, which precluded the possibility of its being *solely generated by them*, we were driven to the necessity of admitting the existence of certain *unknown forces*, likewise capable of bone production. The fact was patent; *here was the effect produced*, and it only remained to search for a cause capable of accounting for it. Judge then, how delighted we were that Nature, with liberal hand, should thus opportunely have opened the very page of her exhaustless volume we were seeking for! Here was the fact exhibited to our astonished senses! We had caught Nature in the act of generating bone tissue! We saw it growing directly from the medullæ and medullary membrane, and *utterly disconnected from all other tissues*, whether bone, periosteum or endosteum. I therefore desire to record it as a carefully observed fact, not hitherto reported, if occurring under the observation of surgeons.

CASE III.—*Gunshot Wound of Abdomen, Carrying away a Portion of the Descending Colon and Messentery—Recovery.*—Capt. W., of Texas, C. S. A., while gallantly leading on his company, received a Minnié ball midway between the umbilicus and the anterior superior spinous process of left ilium, which ranging obliquely backwards and to the left, emerged not far from the sacral articulation of that bone. He first came under my notice on April 16th, eight days after the injury, and was pointed out among those fatally wounded, and of course beyond all surgery. I found him reposing on the right side (by the advice of his attendant) taking morphine to allay pain, and such nourishments and stimulants as he desired. There was a constant discharge of thin feculant matters; and the unfortunate gentleman, without hope of life, was like a true soldier calmly awaiting the hour that would put an end to his sufferings. The abdomen was tympanitic and somewhat tender, and the left wall considerably engorged, and of a reddish color. The wounds being cleansed were perceived to be of good color, and suppurating healthily, and the smell and general appearance did not indicate so hopeless a condition as had been anticipated. The appetite and pulse were on the whole not unfavorable, and the fever which had been quite

Digitized by Google

high for many days was subsiding; the bladder was intact, and the feculent discharges wholly came from the wound of exit, at the bottom of which a dark looking slough was visible; and the wound of entrance, though inflamed, was discharging laudable pus. There had, of course, been no evacuation per anum since the reception of the wound. Under these circumstances, I did not hesitate to take a more favorable view of the case than other surgeons had, and told him frankly that there was yet a very good chance to save his life, provided he would strictly obey my instructions. I notified him, however, that for some time after the slough came away, he must necessarily suffer from artificial anus; but assured him that this condition was amenable to surgical interference, and that he might thus hope, not only to survive the wound, but to be restored to perfect health. I at once had his position changed from the right to the left lateral semiprone decubitus, which was directed to be persistently enforced, so as to cause firm adhesion of the wounded gut to the left posterior wall, where the ball had emerged; thereby effectually to guard against the escape of fæcal matter into the peritoneal sac, when the anticipated slough should be thrown off. I directed nothing to be eaten, not even a cracker or a spoonful of rice, of a solid description, and restricted the diet exclusively to mutton, beef, or chicken tea, made as rich as possible. An occasional julep was allowed, and three opium pills a day. Poultices of slippery elm, sprinkled with laudanum, and kept moist with vinegar and water (cold) were constantly applied to the abdomen and left side for several days, and the wounds scrupulously cleansed every two or three hours. About the 24th April, sloughs almost simultaneously came away from both wounds. That from the wound of entrance (in front as before described) consisted of portions of clothing carried in by the ball, and was followed by a copious discharge of healthy pus. That from the wound of exit consisted of a knuckle of intestine (descending colon) and a wad of messentery; the former three inches long, and the latter four by three inches. My friend, Surgeon Winn, to whose untiring exertions the service owed so much, assisted me in carefully washing and examining these interesting pathological specimens; which were likewise eagerly inspected by many other professional gentlemen.

Thanks to position (the left lateral semiprone as above) and careful management, the attachment of the wounded gut to the wound of exit was strong and healthy; and nothing was after this time required except cold water dressings, and the occasional application of the argenti nitratis. But thenceforth no evacuation was permitted through the arti-

Digitized by Google

ficial anus; a free current of cold water was thrown per anum through the wound, to cleanse it twice or thrice a day, and the patient was instructed, by careful and firm pressure with a towel, to force all fæcal evacuations per *vias naturales*.

The wound of entrance healed perfectly in a few days, and that of exit was rapidly diminishing, and would doubtless have soon been cured, but the patient grew nostalgic, and I could keep him no longer; and to my great regret he failed to report the result of his case, as promised. It would have been a beautiful opportunity for the trial of Dupuytren's modification of Physics operation.

I forgot to mention that, after the slough came away, and I determined to force evacuations by the rectum, the patient was made to lie on the right side; as, otherwise, fluid matters would constantly have been escaping. It was my habit to keep lint firmly applied to the wound by adhesive straps, except when the cold douches were being given. Soft boiled eggs were added to his diet after April 24th, but solid articles were proscribed entirely, as I wished to keep the alimentary contents as fluid as possible.

I have dwelt particularly on the position, change of position, and general management of this case, as so very few such recover in military surgery, that every one added to the list may do some good.

Case IV.—*Gunshot Wound of the Brain—Death.*—Sydenham the Wise, once said to a gentleman who wished to know what books he should study to become a physician: "By all means, my dear sir, read Don Quixote." Now, Mr. Editor, have you read Dumas' Monte Christo? and did you pay especial attention to his wonderful delineation of the character of M. Noirtiér, the old man of 1789, who, though paralyzed in every limb, yet with unclouded and firm mind, could, by his *eyes alone*, commune with the outer world, regardless of the senses he had lost. In all else he was but a dead man; but by the expression of the eye, the wink of the eye, he could communicate everything he wished to say or do. On an occasion, which I never shall forget, the remembrance of this life-like sketch (it was surely drawn from nature) enabled me almost to save a human existence; that of a brave boy, stricken in the head, all in front, like the old Roman; but the fates decreed otherwise, and he perished miserably.

On the sixteenth of April, 1864, in the afternoon of a day of exhausting labors spent in visiting our wounded, I went to see Col. Yell, of Arkansas (brave man! how well he bore the sufferings of his long illness!) He was wounded in both legs; we amputated one at the thigh, and the

Digitized by Google

other, unhappily, took on inflammation at the knee, and he died. It is not, however, of this much regretted gentleman that I would speak, but of a poor Arkansas private whom I saw, "his back to earth, his face to heaven," couched in the same room with him. There was something in the look and attitude of this young soldier that impressed me very deeply, even on that day of sensations. As I approached and asked his companions of his condition, they said: "Ah! sir; you can do nothing for him, he is dying, and has been unconscious ever since he was wounded on the eighth." "Are you quite sure that he is unconscious?" "He can't speak, sir, is paralyzed, hardly can swallow a spoonful of water, and takes no notice of anything; so, of course, he is unconscious." Upon this I examined him yet more attentively, and perceived so peculiar an expression of the eye, such a longing to make himself understood, such a mute cry for succor, that I at once thought of old Noirtier, and said: "My friend, they tell me that you don't know anything that we are doing, yet you look as though you would speak, but cannot; if so, wink your eyes!" Upon this he *winked both eyes*. "My friend, I am a surgeon, anxious to help you; do you wish me to take charge of you? if so, wink both eyes twice, and I will nurse you as a brother." Instantly he gave *the mute yet eloquent reply*, and two great big tears, such as the brave may sometimes shed, came rolling down his cheek. There were many in that room, and some fatally wounded; yet all were so much interested in this strange colloquy that they forgot for awhile their own sufferings in an agony of suspense for their companion in arms. None could refrain from tears. But to go on. I at once proceeded to examine the wound, now undressed for days, and by the free application of water removed the filthy bandages that enveloped the head. A ghastly wound was discovered in the forehead, over the left orbital ridge, and extending somewhat beyond the medial line to the right side, made by a Minnié rifle ball moving from left to right. It was flattened by the concussion, and falling from the wound when he was taken from the field, was shown me by his friends. Both tables of the os frontis were shivered, making a frightful chasm; which, as the poor fellow had lain on his back, was full of bad smelling pus, dissolved brain tissue, spiculæ of bone, and clots of blood. I took his head in my hands, and emptied this foul accumulation of matters as from a cup; and after cleansing the wound thoroughly, applied the usual water dressings, to be constantly renewed during the night; and ordered him to be kept lying on the left side, so that no reaccumulation could take place. He seemed greatly relieved, and when I asked if he wished

Digitized by Google

a litter sent the next morning at daylight, to remove him to the central hospital, where he might be constantly watched and well cared for, he winked a cheerful acquiescence. The paralysis was discovered to be confined to the right side, and, as above stated, the wound was to the left of the medial line.

Next morning he was removed accordingly, and promptly bled and purged (enemata and broken doses of calomel being used). The wound was carefully freed from spiculæ, hair closely cut, position on the left side, the head being well elevated, was constantly maintained—and the cold-water dressings assiduously applied. On the evening of the following day there was a most decided improvement, and on the morning of the 19th, he regained the power of speech, and the hemiplegia wholly disappeared. For many days he walked about, relished his food, and appeared to be rapidly recovering; but, whether owing to the excitement produced by the crowds of women, who, in spite of every precaution, thronged to see so singular a resurrection, or to the atmosphere saturated with erisipelatous infection, he finally relapsed. Irritative pus sat in; the lips of the wound became swollen, hernia cerebri followed, and at last the sphacelated brain tissue, mixed with blood, burst forth, and ran down his cheeks in torrents. He soon perished, a horrible and sad spectacle; but, strange to say, preserved his consciousness almost to the last moment, and all his senses complete and entire. No post-mortem was made.

Case V.—*Gunshot Wound of Bladder; Recovery.*—Wounds of the bladder were classed by the father of Medicine as "mortal;" and modern surgery can only now and then produce an exception to this inexorable rule, as cystitis, peritonitis, pelvic cellulitis, pyæmia, or infiltration of urine with mortification, usually carry off the sufferer. The following case, therefore, may not be without interest, having terminated in perfect recovery:

A Confederate soldier, aged eighteen years, from Texas, of excellent constitution, and in good health at the time, was wounded by a Minnié ball, at Mansfield, on eighth of April. The ball entered at the lower margin of the pubis, near the symphisis, slightly splintering that bone, and passing outwards traversed the bladder, and emerged on the left side of the os coxygis. Neither the urethra nor rectum were injured; but urine flowed freely from both wounds immediately on the reception of the injury.

The constitutional symptoms were very grave for many days, with intense fever; but with the gum elastic catheter constantly retained

Digitized by Google

(except when withdrawn to be changed, or cleansed, or at the urgent entreaty of the patient); water-dressings frequently renewed; soothing diuretics and demulcents to modify the acidity of urine; mild enemata to regulate the bowels; nutritious, yet unirritating diet (not forgetting the great remedy opium); the case finally assumed a more favorable aspect. The wound of entrance healed in about four weeks, but that of exit remained open for more than two months. Finally, on its closure, the symptoms again became threatening, and culminated in so violent an attack of cystitis, with abundant secretion of pus, which was largely deposited at the bottom of the vessel shortly after the urine was voided, that I was over and again on the point of cutting into the bladder to relieve it of the foreign bodies which were evidently the cause of the trouble. However, I concluded to wait, and try systematic dilatation of the urethra; hoping, after a while, that he might be relieved *per vias naturales*, and it was fortunate that I did so, as the wisdom of this policy soon became apparent. One morning, a few days afterwards (the urine having long been retained, and a very large sized bougie introduced), the patient was made to stand up and *lean forward* with his hands resting on the back of a chair, and the body so bent as to enable him to exercise the greatest possible ejaculatory power. The bougie was then, when it could no longer be tolerated, quickly withdrawn, and to my infinite satisfaction, was followed by a wad of foreign matters, consisting of portions of clothing and bone, which was violently projected from the bladder by the torrent of urine.

For several days other smaller particles came away, without much pain, and amounted in all to quite a considerable quantity. After this, the youth's health rapidly recovered, and I had the pleasure to send him rejoicing on his homeward way, perfectly cured, in about three months after he was wounded.

Spiculæ of bone, and portions of clothing driven inward by the ball, had come away through the wound of exit before its closure, and some urine, in spite of the constant application of the catheter, continued likewise to dribble away until that event. Of course the cathether was then suspended, greatly to the delight of the sufferer. Great benefit was, no doubt, derived in this case from infusion of slippery elm and flaxseed, with or without bitartrate or bicarbonate of potassa, as required by chemical condition of the urine. They were largely used during the entire treatment, but more especially towards its conclusion. My friend, Surgeon Hollis, C. S. A., treated the case in the earlier days with great nicety and skill; afterwards I attended it as above set forth.

Digitized by Google

CASE VI.—*V. S. Left Humerus—Bone Badly Shattered and Brachial Artery and Median Nerve Injured.*—Private J. Lewis, of Crescent Regiment, had the left humerus wounded as above by a Minnié ball. He was dressed on the field by the late Chief Surgeon Martin, and some spiculæ of bone removed; the hurry of the occasion only preventing the arm from being immediately amputated, which was urgently called for by the otherwise irremediable nature of the injury. When he first came under my notice, some days afterwards, there was no pulsation to be discovered, and but little sensibility existing below the wound, so that the limb was necessarily condemned. He was, however, in that intermediate stage of irritative traumatic fever, where surgical interference is almost always followed by fatal consequences, whether from pyemia or other causes, from which patients are much more exempt after strictly primary or purely secondary operations. I therefore determined to wait until the favorable crisis had arrived. On the twenty-first day the slough came away, and was followed by dangerous hæmorrhage from the brachial artery, which, in a few minutes, so exhausted him, that there was but little hope that anything could be done to prevent an immediately fatal result. Acting Assistant Surgeon Jones, in whose charge the case was, promptly reported its urgency to me; and I hurried round, instrument in hand, and accompanied by my friend, Surgeon Winn. We found the pulse 160, skin cold and clammy, and the patient so utterly prostrated that operation was out of the question. The limb, too, presented a most unfavorable appearance, being of an ashen hue, erysipelatous, and enormously swollen from infiltration, and smelling abominably. As no pressure whatever could be tolerated along the course of the brachial or axillary artery, it had to be applied to the subclavian by competent assistants, who were directed to watch constantly, so as to guard against a recurrence of hæmorrhage. And, in order still more effectually to prevent such a calamity, the limb was raised at an angle of from twenty to thirty degrees, as could be comfortably borne; and kept constantly wet with a strong solution of sulphate of iron, applied as cold as possible, by means of suitable cloths, which enveloped the entire member. The most generous diet was ordered, with stimulants, egg-nogg, mineral acids, and last, not least, an abundance of fresh air; which was accomplished by having the couch removed to a cool balcony during the entire day. By these means, assiduously enforced for a week, the pulse was reduced to eighty, and the strength so much improved, and the color so much more life-like, that we were en-

Digitized by Google

abled, on the twenty-ninth day, to operate with a fair prospect of success.

I should not omit to mention that Labarraque's solution was freely used; and without it, bad effect might have resulted, from the foul gases evolved by the almost mortified limb, and constantly absorbed into the system through the lungs. True, the sulphate of iron was known to possess highly disinfecting powers, and effectually to deodorize bad smelling wounds, and wards; however, we preferred, in this interesting case, not to omit any of the *juvantia* that could be brought to bear, so as, if possible, thoroughly to protect the patient.

The circular method was employed, just below the insertion of the deltoid; and "*cito tuto, et jucunde.*" I finished the operation in thirty seconds, and without appreciable loss of blood; my friend, Surgeon Winn, having pressed the axillary artery so nicely against the head of the humerus, as effectually to arrest circulation. I may here remark (*par parenthèse*) that pressure by means of a key applied to the subclavian did not, in a single instance, satisfactorily control hæmorrhage, in all our operations on the upper extremity; but, as above, to the axillary, always did. We never used the tourniquet, but preferred the educated touch of an expert confrère in all operations susceptible of rapid performance.

A careful dissection of the limb fully confirmed our diagnosis; the humerus being found in a hopeless state of caries nearly up to the point of section, and all the other tissues in an advanced state of disintegration. We discovered at the seat of hæmorrhage, where the ball had impinged against the brachial artery, a false aneurismal sack, of the capacity of ℥iij, and containing a firm clot of blood. The artery, both above and below, was effectually closed by the same process for a short distance; owing to which fortunate occurrence, hæmorrhage, whether direct or recurrent, had been prevented. The median nerve was severed. Had the operation been attempted at the time the patient was so much prostrated, death would inevitably have ensued; and it was only by building him up, and then operating when the maximum of force was attained (which, perhaps, in twenty-four hours might have begun to decline) that we were enabled to save his life. The recovery was unusually rapid; so much so, that on the twenty-eighth day, the wound being entirely closed, he rode to the field on horseback.

The sulphate of iron dressings were equally beneficial in other cases of secondary hæmorrhage, effectually constringing deep-seated and superficial vessels, whether arterial or venous; and, likewise, removing all of-

Digitized by Google

fensive odors, equally as well as the far-famed chlorides, "a consummation devoutly to be prayed for" in military surgery. In erysipelas, too, it was found worthy, in our hands, of all the praise bestowed on it by M. Velpeau.

ART. III.—*Calcareous Degeneration of the Placenta:* By C. B. GALLOWAY, M. D., Canton, Miss.

DURING a professional experience of twenty years, I have met with seven cases of calcareous placenta. So rarely do cases of this kind occur, or rather so seldom is the attention of practitioners directed to them, that I have known but two physicians who ever saw a case. Few physicians ever think to examine the placenta, and this circumstance alone is sufficient to account for the very few reported cases of calcareous degeneration, and the generally prevalent opinion among medical men that it is of very rare occurrence. The fact is, however, to the contrary, that cases of calcareous placenta are more numerous than is generally supposed; and I attribute the fact of having met with more cases of the kind, than any of my professional brethren with whom I have conversed on this subject, to the simple circumstance that I have made it an invariable rule of practice, in all cases of labor, to inspect the placenta, and have been rewarded for my pains by the discovery of many interesting phenomena. In some of the cases that have occurred in my practice, I have found as much as three drachms of calcareous matter, and in about three cases out of four adhesion was found to have taken place. It has been stated, on the authority of some eminent writers, that the morbid alterations discoverable in partial cases of this degeneration of the placenta, are very apt to interfere with the natural healthy development of the fœtus; but my experience would lead me to dissent from this opinion, as in every case that has occurred under my observation the child was well developed, and the mother convalesced as rapidly as in ordinary cases. However, it may well be doubted if complete degeneration would not have that effect; as in that event the natural functions of the placenta in furnishing nutriment to the embryo, would be suspended. But it is difficult to imagine the possibility of this latter occurrence (complete degeneration) without presupposing the loss of all vitality in the fœtus, and its consequent expulsion. May the morbid

Digitized by Google

process not be the active cause, in a great many instances, of abortion and still-born? It is a subject well worthy of investigation; and this humble paper will have fully accomplished its object, if it should, perchance, succeed in directing the attention of the profession to a more thorough and careful study of the morbid phenomena connected with this particular branch of professional inquiry.

ART. IV.—*A Case of Compound Comminuted Fracture and Amputation in a Patient aged Seventy-six—Recovery:* By W. O. B. POLLARD, M. D.

ON the twentieth of March last, I was called to visit William Mundy, the oldest inhabitant of our parish, aged seventy-six years and nineteen days, who had received a fall early in the morning, while ascending the steps of his gin-house. As he had reached the topmost step, the steps gave way, precipitating him to the ground, and falling upon him produced a very severe fracture of the right leg. The tibia and fibula were both broken, the former bone, at its upper continuity, and the tissues around were badly lacerated. Several spiculæ of bone were noticed. The fracture was of such a character that an amputation was imperatively necessary. The patient's physical strength was by no means vigorous, as it is well known that persons at this age have but little stamina or vital resistance. However, notwithstanding his extreme old age, and the frailty of his constitution, I was determined to give him the benefit of an operation, if he would consent to it. I briefly, but frankly, stated to him his condition, and then submitted the matter to him for decision. After a few moment's reflection upon his part, he gave his consent to be operated upon. Assisted by my brother, Dr. A. F. Pollard, I performed the operation by the flap method, just below the spine of the tibia. The stump was dressed after the usual manner, and the patient placed comfortably in bed, and a grain of morphia administered; stimulants, such as brandy, porter, etc., with nutritious diet, were freely administered, and anodynes whenever circumstances required them. Patient did well up to the sixth day, when he complained very much of his wound paining him. There was an erysipelatous blush discovered on the upper flap, just above its margin, with a purple aspect in the center. Apprehending that gangrene might ensue, I applied creosote extensively over the red

Digitized by Google

spot, three times a day, for two days. It was then discontinued, the redness having entirely subsided. No other treatment was necessary, further than the continuation of the necessary subsequent dressings, together with stimulants, nutritious diet, and anodynes, *pro re nata*. In three weeks the wound was very well healed, and I did not deem it necessary to visit him any more. A few days after I had discharged the patient, he accidentally fell upon the floor of his room, while making an effort to go to his fireside. The stump was a little bruised, and the flaps were torn a little asunder. However, in two or three weeks subsequently, the wound was well healed, and has a beautiful cushioned stump. The old man is now in good health, and wearing one of Dr. Palmer's patent artificial legs. He is a man of superior energy, and travels with a great deal of agility.

Remarks.—The case in question is one among the few that survives an operation of this kind, after they have reached their threescore and ten. But when it is incumbent upon us to decide for the welfare of suffering humanity, we should do so to the best of our ability, and endeavor to relieve their sufferings, and procrastinate their existence as long as we possibly can. And as Seneca has said: "He that does good to another man, does good also to himself; not only in the consequences, but in the very act of doing it, for the conscience of well-doing is an ample reward."

ART. V.—*Fracture of Lower Jaw—New Mode of Treatment:* By BENJ. H. RIGGS, M. D., of Selma.

I desire to report the following case, as one possessing interest on account of its novel complications, and as suggesting some new ideas upon the subject of the treatment of fractures of the inferior maxilla.

George B. Nesbitt, a discharged Union soldier, "being in the spirit," on the fourth of July, 1866, walked over the high and precipitous bluff of the Alabama river, in front of Selma, and sustained, with more than usual bad luck for a drunken man, a severe fracture of the inferior maxilla. He came under my treatment on July ninth, five days from the date of injury. I found a fracture immediately to the right of the symphysis, and through the socket of the right central incisor, the outer half of that tooth being exposed to view; the right fragment was very much drawn inwards; the gum was freely severed at the seat of fracture,

Digitized by Google

making it of the compound class. I applied the pasteboard splint and Barton's bandage, having previously adjusted the fragments as well as I could; and gave the necessary instructions to the patient in regard to the necessity of perfect rest of the jaw, the manner of eating, etc.; which he took the liberty of neglecting, as he did not like to have his head bound up, and was, for sometime, unconvinced that his jaw "was broken." The consequence was that the treatment was unsuccessful; the bandage had to be readjusted some three or four times during the first six weeks. The fragments being allowed to move upon each other, a fistulous orifice formed at the bottom of the fracture under the chin, through which bloody pus constantly escaped, and occasionally spiculæ of bone. I will state that I found it impossible to keep the bones together with the apparatus used. At the end of six weeks, examination revealed the following condition of parts: there was a discharging fistula under the chin, and no attempt at union by the bones, and no deposition of callous. (Fig. 1 represents very correctly the position of the bones with regard to each other; shows how much the natural curve was interrupted, and also the seat of the fracture.) The impossibility of causing the bones to remain in antagonism, through the instrumentality of the bandage and pasteboard splint, caused me to think of attaining that end by means of some mechanical appliance within the mouth. Upon submitting the case to my friend, Dr. S. G. Todd, a most enterprising and ingenious young dentist, of the firm of McAuley, Paisley & Todd, dentists, of this city, my crude ideas of the necessary apparatus were made to assume sha e, and resulted in the following plan of treatment: An impression was first taken in soft wax, and used as a mould for the cast, in plaster of Paris. This cast is represented by Fig. 1. A silver band, represented by Fig. 2, was now constructed on this cast, and made to fit every inequality of the teeth, completely encircling the first nine; it was not quite as wide as the teeth were long, and did not interfere at all with the closure of the mouth, the tips of the teeth being exposed. An intercommunicating or transverse band, for the sake of strength, extended from the front arm of the band to the posterior at the seat of fracture; the second bicuspid on the left, and the first molar on the right had been sometime previously

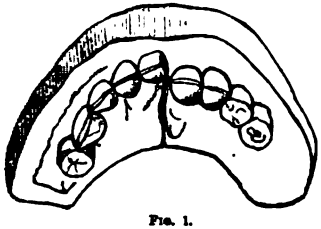


Fig. 1.

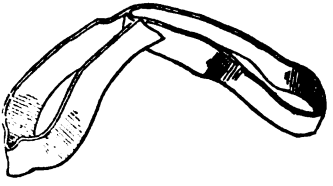


Fig. 2.

Digitized by Google

removed, so there was no difficulty in completely encircling the teeth. The band upon being placed upon the teeth, was found to fit them comfortably, and to maintain exact coaptation of the bones. Dr. Todd also constructed a tin fracture box, made to fit the jaw; this was soon discarded as cumbersome, and I do not think it ever necessary; as all we need, in addition to the clasp in the mouth, is to keep the jaws closed by a two-tailed bandage, extending from the jaw to the vertex. Under this treatment the fistula immediately closed up, and the case seemed advancing steadily towards a cure for several weeks; but owing to the right central incisor being immediately at the fracture, it acted as a foreign body, and kept up the pus formation; which, it was discovered, discharged in the mouth, instead of through the fistula as before. There was also, apparently, no attempt at bone formation; the patient being anæmic, and subject to attacks of intermittent fever. The offending tooth was now removed and the band shortened, (so as to bring the parts nearer together) and readjusted to this new condition of things. The fistula again closed in less than three days, and the case progressed without any untoward events to the end of the treatment. The annexed cut, Fig. 3, represents the condition of the parts, at the end of six weeks from the extraction of the tooth. It will be seen that the space left by extracting the tooth, is much narrower than it should be; which is probably owing to the absorption of the ends of the bones; the natural curve of the jaw is restored. Osseous union was, however, not yet perfect; owing, as before said, to the bad condition of the patient's system, yet it was sufficiently strong to admit of the apparatus being removed, and the patient discharged. He is at present at work as a laborer on the Alabama and Tennessee River Railroad. I am not aware that the plan of treatment used by me in this instance, has ever been adopted before; its success, neatness, and convenience are such as to decidedly recommend it. The various plans of treatment laid down in standard works are cumbersome, complex, and of difficult construction, requiring padding, pasteboard, and yards of bandaging, which the majority of physicians do not know how to apply; it is, moreover, impossible in many cases to adjust the fragments by their aid. I know of no objection to turning over these cases to the dentist, as soon as they come under the notice of the physician; not to

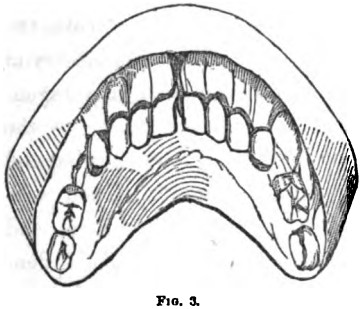


Fig. 3.

Digitized by Google

be treated by him, but for him to aid us by his mechanical skill. The objection to taking the cast, on the score of pain, is trivial in the hands of a careful manipulator. All dentists are familiar with what is called "the inclined plane of Catalan," an apparatus used by them to correct irregularity of the teeth; there are various other appliances for the same known purpose, among them, "Duval's grooved plate," and "the plan of Delabarre." In the treatment of fractures, of course none of these contrivances are applicable; I merely mention them as a basis for the ingenuity of the operator to work on. In the hands of an ingenious person, a simple and easily fitting apparatus can be contrived, that will be adapted to any fracture in any portion of the inferior maxilla that is occupied by teeth. I am satisfied that the simplest and most effectual plan of treatment for fractures of the lower jaw, is by gold, silver, or zinc bands applied to the teeth, and a simple bandage used merely to keep the jaws together.

ART. VI.—*Placental Formation Throughout the Uterine Cavity:* By D. WARREN BRICKELL, M. D., Professor of Obstetrics, etc., New Orleans School of Medicine.

IN November last, Dr. F. Loeber, Demonstrator of Anatomy in the New Orleans School of Medicine, brought to my office a fleshy mass, which he said had just been extruded, after great difficulty, by a woman who deemed herself about three months advanced in pregnancy. The mass was about four inches long, almost two inches at the base, and distinctly pear-shaped. The doctor had torn the structure at the smaller extremity, but could not determine its true character. I at once subjected it to irrigation, when it was readily seen that the surface was villous, lobular, and distinctly placental in appearance. I then enlarged the rent made by the doctor, and at once there was demonstrated a cavity; and in this cavity was suspended a blighted fœtus, about three quarters of an inch in length, attached to the mass by a cord about an inch and a half long, and about a sixteenth of an inch in diameter. This cavity, too, was lined by a smooth membrane. Pushing the investigation, both chorion and amnion could be clearly demonstrated; and on bringing the torn surfaces together, and restoring all things as nearly as possible to their normal position, it was found that there was before us a placenta the complete cast of the entire uterine cavity, with a round opening, about

Digitized by Google

a quarter of an inch in diameter, corresponding to its original location over the internal *os uteri*, and this placenta was possessed of a cavity in which was now hanging the blighted fœtus—the *liquor amnii* having at some time escaped.

The specimen was carefully prepared by Dr. Loeber, and is now in the museum of the School of Medicine.

The case is one of very great interest. In point of physiological aberration it is a fruitful theme; and, as adding another to the long list of causes of abortion, it presses itself on our attention. For want of close observation, it may be that practitioners have overlooked similar cases, or confounded them with the too popular "mole." For myself, I am always very particular in examining the material discharged from uteri supposed to be pregnant, but this is the first case of the kind I have encountered.

ART. VII.—*Palatable Medicines:* By L. H. COHEN, M. D., of New Orleans.

THE importance of this subject has been, to a great extent, overlooked by physicians. While the progress of medicine within the past few years has been vast, in regard to pathological observations, diagnosis, and therapeutics, very great improvements have also been made in pharmacy; so great, indeed, that the time-honored draughts and boluses may almost be said to have disappeared; or, to speak more correctly, those nauseous preparations, frequently more dreaded by patients than disease itself, ought no longer to be known. Pharmaceutical chemists, both in this country and in Europe, have exerted themselves to introduce preparations in which the principles of such drugs as have been heretofore used in forms bulky or disagreeable, might be given by methods in which the dose is small, the preparation generally soluble, and frequently tasteless, or nearly so. Yet I have lately seen such a preparation ordered as the decoction of cinchona, about as nauseous a mess as can be prescribed; when almost in the very front of the writer of the prescription, stood "Battley's Liquor Cinchonæ;" a most elegant preparation, of a rather agreeable aromatic flavor, and of which twenty drops were probably equal in strength to at least an ounce of the bitter stuff ordered. This "liquor," it is true, has not been made officinal; and many other new preparations are also to be found in use, which are

Digitized by Google

not mentioned, as yet, in the U. S. Pharmacopœia. But this does not detract from their excellence. Since Mr. Battley's "liquores" have appeared, I have used them to a considerable extent, and find them much more readily taken by the patient, and quite as efficacious as the old forms, while the dose is often but one-tenth, or even less. The profession is also indebted to Messrs. Morson & Son, for another class of medicines, to be given in agreeable form—the "Effervescent Granules," which are becoming well known, though not so well as they should be. They are immediately soluble in water, and are almost always retained even by the most irritable stomach. While Battley's liquores contains the active principles of plants, Morson's granules are nearly all preparations of metallic salts. This latter firm has also prepared several forms of lozenges and globules.

In France a very large number of medicines are now administered in the form of *dragées;* which are, in fact, sugar-coated pills, and, to some extent, have been used or imitated in this country. Advantage, too, has been taken of the great power of the alkaloids, so that in nearly all of this class of preparations the dose is exceedingly small. I think that too little attention has been paid to this fact; many of the principles contained in various extracts, tinctures, etc., while they increase bulk, are entirely useless; or, in some cases, productive of actual harm. The use of the alcoholic tinctures, especially, should be avoided as much as possible, as it is well known that they have frequently been the cause of most deplorable results, particularly in females.

The various preparations of cerium which have been introduced, are coming fast into favor; they act as sedatives or anodynes, frequently relieving pain and inducing sleep; but their greatest use appears to be in allaying vomiting, especially that observed during pregnancy and in "Bright's disease." The form which seems to have been received with most favor by the profession, is the oxalate, the dose of which is from one to three grains; it is tasteless, and I have never seen it rejected from the stomach, while the effervescent nitrate sometimes is. It is certainly preferable, in every respect, to assafœtida, which has enjoyed much favor among physicians, but very little, I am positive, among patients.

Another sedative which has come into some notice of late, is narceine. The preparations of opium and morphia have always had certain objections; among others, that they frequently fail entirely to produce sleep, and even when that effect is obtained, secondary results of a disagreeable, and sometimes injurious nature are produced, such as loss of appe-

Digitized by Google

tite, nausea, and constipation. It is claimed by M. Linne that narceine is liable to none of these objections; and if it possesses the properties claimed, it is certainly to be recommended. Among medicines, cod liver and castor oil are to be numbered as tortures to which a patient is often subjected; so great is the disgust for them that they are often instantly vomited; and if obstinately repeated, the same thing will happen over and over again, until the poor, tired sick stomach is utterly incapable of retaining anything. If a patient tells me he (or she) cannot take castor oil, I never order it. It is certainly a most excellent cathartic, in many cases; but by a little trouble or thought it is easy to substitute something that will be fully as efficacious; seldom will three of the "pilulæ rhei comp." be objected to instead; and they may be coated with sugar, or, still better, the entire dose can be placed in a gelatine capsule and easily swallowed.

If, however, it be considered necessary to administer the oil, its flavor may be entirely masked, by giving it in a small wineglass, which has been well rinsed with brandy, and adding a little of the spirit, with a few drops of oil of peppermint (or any other aromatic oil) poured upon the surface; the taste will not be perceptible, though the usual eructations will be plainly so in due time.

Another method by which both castor and cod liver oils are now sometimes given, is in the form of jelly; copaiba may, also, be administered in this way. M. Emile Mouchon, of Paris, and Mr. Laster, of the Charity Hospital, in this city, have furnished some excellent recipes for the preparation of these substances.

I have tried, in several cases, the method of M. Jeannel, for dispelling the disagreeable flavor and smell of cod liver oil, by agitating it with oil of bitter almonds, but in no one instance have I seen a satisfactory result; the oil will maintain its "fishy" taste, and its odor completely overwhelms that of the oil of almonds, even when two or three, or even four minims were added to each ounce of the fish oil. I am inclined to believe that the cod liver oil can be dispensed with; the iodides, phosphates, etc., to which it has been supposed, in a great degree, to owe its efficacy, can, I am certain, be given in a much more agreeable form; while the oily matter can find an efficient and acceptable substitute in good fresh buttermilk.

The following is the recipe for a preparation, that I have lately ordered in several cases in which the cod liver oil had been used, and the change has been much relished by the patients. I have not yet been enabled to judge of its effect as a tonic, but will give it for the benefit of

Digitized by Google

those who may feel disposed to try it: ℞ liquoris ferri iodidi, ℥ss; acidi phosphorici, dil., 3ii; aquæ lauro cerasi; syrupi symplicis, *aa* ℥i; glycerini q. s. ut fiat mist. ℥vj. Dose: for an adult, a tablespoonful three or four times daily. This combination forms a perfectly clear solution, colorless at first, but soon becoming of a lilac or purple tinge, from the liberation of the iodine; while the iron remains in the form of a soluble phosphate, and the excess of acid, flavored by the cherry laurel water, gives a pleasant flavor to the preparation.

Ferrated preparations of cinchona are often desirable; but the objections found to the most of them are their frequently disagreeable taste, the formation of a bulky precipitate, and also the large amount of alcohol they too often contain. I have employed the following "elixir" in a number of instances, with marked benefit, and it is readily taken by any patient, however squeamish: ℞ ferri et potassæ tartratis, 3i; acidi phosphorici dil., 3iii; liq. cinchona cordifol (Battley's) 3ii; syrupi simplicis, ℥ii; aquæ cinnamomi, q. s. Dissolve the tartrate in two ounces of the cinnamon water, add the phosphoric acid, and then the liquor cinchonæ, and filter from the resulting precipitate (bitartrate of potassa); then add the syrup and sufficient cinnamon water to make the solution measure six fluid ounces. The dose is the same as that of the glycerole before mentioned.

ART. VIII.—*On the Constitutional Effects Produced by Substances Introduced into the Urethra*: By I. L. CRAWCOUR, M. D., Professor of the Principles and Practice of Medicine, New Orleans School of Medicine.

IN the summer of 1857, I noticed that when bougies, tipped with an ointment containing morphine, were introduced into the urethra, rapid and intense narcotism was produced; and so intense and constant is the phenomenon, and so out of all proportion to the quantity of sedative employed, that I deem it my duty to lay before the profession this remarkable circumstance, especially as I can find no mention of it in books, and as even in some, the absorbing property of the mucous lining of the urethra and bladder is denied. In April, 1857, having a patient afflicted with chronic inflammation of the urethra, and who suffered intense agony whenever an instrument was passed, I thought relief might be obtained

Digitized by Google

if, instead of using oil, I smeared the instrument with morphine cerate. Accordingly, I prepared an ointment containing twenty grains of morphine in every drachm of spermaceti ointment, and as the inflammation was confined to the membranous and prostatic portions of the canal, I smeared only the last three inches of the instrument (a silver sound), with ointment, passed it and allowed it to remain about five minutes. The patient complained of feeling very sleepy, and the next day stated that he had hardly been able to walk home and as soon as he arrived there, fell into a profound slumber. Thinking this was simply a coincidence, I again applied the ointment in the same manner and a similar result ensued. Desirous of testing whether this was not an idiosyncracy on the part of my patient, I passed a bougie, prepared in a similar manner, on myself, and to my surprise it had not been in my urethra three minutes before all the symptoms ordinarily produced by opium, developed themselves.

On the twenty-third of May, another opportunity presented itself for testing this singular property of the urethral membrane, in a most striking manner, on a patient whom I will call A. I passed a bougie, tipped with morphine ointment, consisting of a drachm of morphine to an equal quantity of cerate, and immediately after passed another smeared with an ointment, consisting of ten grains of atropine to the drachm of cerate. The patient almost immediately, that is in less than a minute, became incapable of locomotion. I left him asleep in my office at nine o'clock, and on returning at two I found him still asleep, and vomiting had taken place. It was not until four o'clock that he was capable of walking home, and then he staggered like a drunken man, and complained of a numb sensation over the whole body. Two days after, he called on me, and said that as he went home he heard many persons say he was drunk, but was unable to speak—was unable to answer any questions when he reached his boarding-house; as soon as he arrived there, went to bed and did not awake until twelve o'clock the next day. He says he still feels under the influence of the drug.

A few days after this, another patient presented himself—a strong, robust, healthy man, with a remarkable muscular development. I passed a catheter, tipped with a minute quantity of the atropine ointment, certainly not as much as would be equal in size to a pin head; the instrument remained in about five minutes; absorption was very rapid; even while it was in, I noticed that the pupils dilated and the voice became husky; in ten minutes, when about leaving my office, he complained of feeling drunk and numb, and walked with a staggering gait. He called

Digitized by Google

on me the next day, and said that when he got home he felt perfectly drunk, was unable to sleep, had constant confusion, sense of giddiness, inability to speak, his throat felt dry and parched, and was unable to see. This morning he feels perfectly recovered.

On the 28th of May, I passed a silver sound on Mr. H., tipped with the morphine cerate. Drowsiness was produced in five minutes. He called on me the next morning at half-past nine, to evacuate his bladder—paralysis of the bladder having occurred and retention since half-past three of the previous day, the period when the instrument was passed.

During the past winter, one of our students, who suffered from stricture of the urethra, came to me for relief. As he was a very intelligent young man, I considered this a very fair case for experiment, and having explained to him the nature of what I was about to do, obtained his consent to pass a bougie tipped with atropine, with the promise that he would analyze his sensations, and furnish me with a written account of what he experienced. I append, in his own words, the result of the experiment: "On arising from the couch on which I was resting, I experienced a sensation of giddiness in the head, with impaired vision, which passed off in a few minutes. These symptoms were accompanied by dilatation of the pupil. After walking a short distance, these sensations returned and my gait became very unsteady. Dryness of the mouth and fauces now occurred, the secretion of saliva became almost entirely suspended, so much so that the use of tobacco would not reproduce it. These phenomena were followed by an intense desire to urinate, with inability to do so. In this condition I remained six or eight hours, when I succeeded in getting to sleep. On awaking the following morning, these effects had very nearly subsided, a little dryness of the fauces being all that remained, and this gradually passed off during the day." Such were the sensations produced on this gentleman by an almost infinitesimal quantity of the alkaloid applied in the manner I have indicated, and the phenomena commenced in five minutes.

Since this I have employed bougies, smeared with morphine and atropine ointment, in at least fifty cases, and in every instance the result has been the same; but as I was desirous that this singular phenomenon should be witnessed by some of the profession, I obtained permission from Dr. Choppin to pass a bougie, similarly prepared, on a patient in his ward, in the Charity Hospital. The patient was a man not suffering from any disease of the urethra, and I passed a No. 7 silver sound, smeared at its extremity with atropine ointment, into his ure-

Digitized by Google

thra, in the presence of Dr. Choppin. Within three minutes from its introduction, as witnessed by Dr. Choppin and several students, the pupils dilated completely; in five minutes the phantasmal delirium, so characteristic of belladonna, was developed to such an intense degree as to necessitate mechanical restraint. All these effects were produced by a quantity of atropine so minute as to be almost inappreciable. The strength of the ointment was ten grains to the drachm, the quantity smeared on the bougie did not weigh half a grain, equaling the twelfth of a grain of atropine. On withdrawing the instrument, apparently the whole of the ointment was adhering to it, and it is probable that not the fiftieth of a grain of the ointment had been removed or absorbed. This would reduce the quantity of atropine to an almost infinitesimal quantity, and I have not the slightest doubt that certainly less than the three-hundredth of a grain entered the system. But allowing even that the whole quantity was absorbed, it would still be inexplicable how absorption should be so rapid and the effects produced so powerful. The usual dose of atropine is about the twentieth of a grain; of morphine, from the sixth to one grain; yet in no instances, administered either by the stomach or endermically, would their effects be comparable to those I have seen and just described, as when applied to the urethral mucous membrane.

There is, also, another circumstance I have observed, viz.: that this absorbing power is not common to the whole urinary tract. The bladder and the spongy portion of the urethra seems incapable of absorbing, I have injected three drachms of Battley's sedative into the bladder and allowed it to remain there, without perceiving the slightest general influence. At the same time, if we pass a prepared bougie only four or five inches into the urethra, we shall not perceive any narcotic influence, however long it may remain there; pass it an inch, or inch and a half further, and rapid narcotism ensues. It seems as if the prostatic portion of the urethra and the neck of the bladder are the only portions possessed of this absorbent property, and that the rest of the canal is inert. In order to test this, I injected into my own urethra a saturated solution of morphine, and held it for some ten minutes—of course it could not penetrate beyond the membranous portion—not the slightest narcotic effect was produced. The next day I passed also, on myself, a bougie, smeared at its distal extremity with morphine, to the neck of the bladder, and in three minutes absorption took place, accompanied by all the effects of a full dose of opium. If we take a bougie, with its last two inches only smeared with morphine, and pass it *rapidly* into

Digitized by Google

the bladder, allowing its extremity to rest against its walls, but its coated portion being beyond the prostate and neck, no absorption takes place, however long it may remain there; withdraw it two inches, and now allow the morphine to come in contact with the neck, absorption again rapidly ensues. These circumstances, therefore, conclusively point to the fact, that this elective power resides only in a small portion of the urinary membrane—a portion bounded by the prostate and neck of the bladder—there is a possibility that the trigone may have some absorbing power, although this is doubtful.

With regard to the rationale of this curious phenomenon, I am at a loss—it is true that the part where I have located absorption, is the one most richly endowed with nerves and blood vessels—the hypogastric plexus of the sympathetic ramifying over the prostatic urethra and neck of the bladder. Here they are very numerous and of a large size, and, according to Valentin and Muller, have ganglionic swellings on various points. We have also a large congeries of blood vessels at this point, but the absorption and intensity of effects are so out of all proportion to what we observe when sedatives are applied to other organs, that I cannot hazard a theory. I have simply stated the facts as I have observed them, and shall leave it to others to frame an hypothesis to account for them. I would suggest that this property, which I have indicated, might be found useful in certain cases of mania and delirium tremens, where we wish to get patients under the influence of a narcotic, and where they refuse to swallow. In these cases we can always pass a bougie, smeared with atropine or morphine, into the urethra, and I am convinced that speedy and full narcotism would be the result.

Since the above has been in press, I have received information from a physician of this city, that nearly fatal results had been induced in his practice, from the passage of a bougie smeared with belladonna ointment, although he had passed them several times without any inconvenience. I have no doubt that in this case the bougie was passed lower than usual, viz., to the absorbing portion of the urethra.

ART. IX.—*Stricture of Œsophagus—Treatment—Recovery:* By HENRY SMITH, M. D., of New Orleans.

I have been induced to offer the following desultory report of a case coming under my notice in an interesting little girl, scarcely two years

Digitized by Google

old, which, considering the infrequency of its occurrence, and tender age of the patient, may not be without interest to the readers of your valuable journal.

I was called on the 8th of February to see the subject of this report, and, on immediate examination, it presented itself in an emaciated, debilitated, almost helpless condition of body, the result, as I was informed, of a persistent diarrhœa, accompanied with great irritability of the stomach—in short, just such symptoms as we might expect to find in one suffering for some length of time from all the concomitants of a want of assimilation of the varied forms of ingesta made use of for its proper sustenance.

On a more careful examination into the history of the case, I learned that two months previous the child had drank freely of a mixture, the composition of which was washing soda and soft soap, prepared in the usual manner by the servant for washing purposes, mistaking no doubt the liquid thus prepared for cows' milk, which it very much resembled, and, child-like, imbibing greedily a considerable quantity before discovering, by the sense of taste, the difference. The mother, on hearing of the accident, sent for a physician, who did not come until the lapse of several hours; in the mean time all was done in her humble power to cause the rejection of the liquid by vomiting, which only imperfectly succeeded. When the doctor arrived, the liquid so taken had evidently done its work; and what at first appeared to mother and friends so trifling a matter, was now converted into a case of acute irritant poisoning, and to use the mother's own language, "the mouth and throat had the appearance of raw meat," excoriation, beyond question, of the whole mucous surface, including mouth, œsophagus and stomach, having been produced. I can only account for the powerful action thus produced, from the circumstance that after standing for some time the quantity of supernatant liquid so swallowed was, in all probability, a large proportion lye or caustic potassa. Although the immediate urgent symptoms were relieved, and an unfavorable prognosis given, the child continued to linger on for several days, with little hope of surviving the extensive injuries done. At this time another physician was called, who predicted a more favorable termination, and the little patient improved for a time under the means made use of for its relief; but this was destined to be only temporary and illusory, the disease now taking on the character I have named and continuing for about ten days, the child became reduced to the condition I found it. In this connection I

Digitized by Google

would mention that the child had been teething, leaving four teeth (two upper and two lower) still to make their appearance.

The treatment made use of by myself was directed mainly to allay the gastric irritability, arrest the frequent alvine discharges, and improve the general health. The first two indications, so intimately connected, were met by the administration of lime-water and milk, bismuth subnitr. and tr. opii camph.—the last by quinine, acid. sulph. aromat. and tr. cinchon co.—bathing with nitro-muriatic acid and whisky, concentrated diet, as beef tea, etc. This course was persevered in with slight variation for a period of ten days, at the end of which time the patient was much benefitted. The above medicines were now discontinued, substituting ferro-phosphoretted elixir of bark; bathing and nourishing diet continued. All went on well for a week more, and convalescence appeared fully established.

February 24th, was summoned to see my late patient, and found it again considerably prostrated; enquiring into the cause, was told that it could keep nothing on its stomach, and had been in this condition for the past two days and was rapidly growing worse. I was now led to suspect the existence of organic stricture of the œsophagus; and that simultaneously with the improved condition of the general health cicatrization of some portions of the excoriated surface (previously retarded in the healing process, in all probability, by the lowered state of the vital powers of the patient), had occurred, thereby inducing a great diminution at some point in the calibre of the channel leading to the stomach. This idea was confirmed still more by offering the patient draughts of milk, it very much craved, which, as often as swallowed, regurgitated into the mouth. I now directed all medication to cease, armed myself with a set of gum-elastic bougies with the object of making an exploration, it being evident to my mind that if this difficulty existed, something must be speedily done to correct it, in order to save the child a distressing death from starvation. On making mention of an operation which seemed to the parents so formidable, a consultation was proposed; Dr. Stone came, confirmed my diagnosis, and urged the immediate adoption of the course proposed, to save, if possible, the child's life.

On attempting to pass a medium sized bougie, I met with an obstruction about the junction of middle with lower third of œsophagus; then selecting number 2 (stiffened with a wire, oiled and giving the proper curve), after two or three trials, each time with an effort of the child to vomit bringing up a piece of meat, I succeeded in gaining entrance into the stomach. The pieces of meat, quite firmly impacted in the pas-

Digitized by Google

sage, proved to be part of a meal the child had partaken of three days before to the positive knowledge of the mother. After the patient had recovered from the fatigue consequent upon the first attempt, I succeeded in passing No. 4, which was so tightly grasped from spasmodic action, no doubt of the organ, as to require considerable force to withdraw it, even after allowing the instrument to remain some time with a view of tiring out the spasm. The next day introduced more easily No. 6, through which was injected a quantity of goat's milk, the closed end of the bougie having been previously perforated for that purpose. The patient at this stage being much exhausted, furnished every indication for speedily reaching the stomach with concentrated nutriment to sustain the powers of life. On the third and fourth days succeeded in passing successively Nos. 8, 10, and 12.

From this time my little patient exhibited signs of improvement, was enabled to swallow all liquid diet as beef tea, milk with bread crumbed in, etc., and continued to gain strength and flesh with digestion active, secretions normal, and bowels regular. No. 12 bougie has been occasionally passed, the last time about ten days since, and about twenty days ago a No. 14 gutta-percha bougie, which passed as readily as No. 12. Although it has not wholly recovered from the extreme debilitated condition that I found it, recovery, no doubt, having been materially retarded by the teething process not yet completed, the patient at the period of writing (April 3) presents quite a restored appearance, and convalescence apparently so fully established bids fair to carry it to a safe and speedy cure.

ART. X.—*Review of New Medicines:* By J. W. CALDWELL, M. D., New Orleans, La.

IT may not be entirely unprofitable to devote a few pages of the Journal to a brief mention of some of the new preparations which have lately been introduced in the Materia Medica list, and are being prescribed more and more every day. Valuable additions are constantly being suggested; and as we can never have too many arrows in our quiver when we go forth to contend with disease, it behooves us to examine faithfully and impartially the merits of every new article proposed—to hold fast the good, and to discard the worthless.

Digitized by Google

I cull much of the following fragmentary notes from the latest U. S. Dispensatory, Parrish's Pharmacy, Braithwaite and other current journals of the day, hoping that it may prove serviceable to some, whose attention may not otherwise have been particularly attracted to these preparations. The first that I would mention is

Chlorate of Quinia. This is an entirely new preparation, which I have had an opportunity of seeing through the kindness of Mr. Finlay druggist, of this city, who has just received it. It is prepared by Morson, of London. It is a white powder, the dose of which is the same as that of the other salts of quinia. Its great advantage is its *perfect solubility* in water, rendering it peculiarly suitable for administration by *hypodermic injection.* Its taste is as bitter as that of the common sulphate, so that with the exception of *solubility* and *unirritating character*, causing it to be well fitted for sub-cutaneous application, I know of no advantage which it possesses over the salts in general use, However, I will state that I find in the last volume of Braithwaite's Retrospect an article on the "Employment of a new Febrifuge—Chlorate of Quinia," in which Dr. Lyons gives a history of two cases, one of scarlatina anginosa, and the other of protracted typhus fever, in which he used this preparation, as he thinks, with decided advantage. In the latter case he directed the chlorate in 5 gr. doses every three hours combined with perchloric acid. He says: "From the powerful oxidizing and general stimulating agency of chloric acid, and the influence of quinia as a nervine-tonic, he has been led to the idea of combining these two remedial agents with the view of obtaining a febrifuge medicine of great potency. Each atom of the chlorate will provide, it may be expected, five available atoms of oxygen, from the chloric acid, Chl. O^5, while in the perchloric acid each atom contains seven of oxygen, Chl. O^7. From some half dozen cases in which he has as yet employed this drug, including scarlatina, typhus, the diptheritic case above mentioned, and low forms of pneumonia, he has obtained results which so far satisfy him of its efficiency and utility, and he invites the coöperation of his professional brethren in testing the value of this salt of quinia in low pyrexial states."

In this connection I may state that I have also seen a preparation of *pure sulphate of quinia in crystals*, of *perfect solubility.* This is the true sulphate—the salt which we have in common use, and which passes under this name, being a *di-sulphate* or *sub-sulphate*, and is a neutral salt. This pure sulphate contains an excess of acid which renders it soluble in water. It is to change the common or neutral sulphate into

Digitized by Google

the true sulphate that we add dil. sulphuric acid, when we desire a liquid preparation.

The *facility of administration* is the only advantage of this preparation over the well known salt, so far as I am aware. Containing as it does, free acid, it cannot be as suitable for hypodermic application as the chlorate above mentioned, which is prepared with a view to its adaptation specially to that purpose.

Salts of Lithia. Another medicine which has been brought into notice and use, within the past few years, is the carbonate of lithia. *Lithium* is a rare metal of a silver-white color, brilliant and ductile, which is obtained by electrolyzing in contact with mercury the hydrate of lithia, and then decomposing the amalgam by distillation. It is said to resemble sodium very closely. Its specific gravity is 0.59; it is consequently the lightest known solid.

Lithia, the oxide of lithium, discovered by Arfwedson in 1817, is found in the minerals spodumene, petalite, and lipidolite. It was obtained in great quantities from a native phosphate, triphylene, found in Bavaria, consisting of phosphate of iron, manganese, and lithia. But this source is said now to be exhausted. It is also contained in the waters of Kreuznack in Prussia, in some of the mineral springs of Baden, as also in the waters of the Thames, and of the Atlantic ocean.

The *carbonate* is the salt most commonly used. It is mentioned in the U. S. Dispensatory, edition of 1858, in the third part of that work, among the unofficinal medicines.* But in the last edition it has been transferred to the first part, and now ranks as officinal. It is precipitated from a solution of the chloride by adding carbonate of ammonia in excess.

Twenty-five years ago, the attention of the profession was called to the solvent power of a solution of carb. lithia upon *uric acid*, by Alexander Ure, of London, who recommended a trial of its efficacy upon these calculi by injecting it into the bladder.

Dr. Garrod, of London, was, I believe, the first who administered it internally in cases of *gouty diathesis*; this was in 1857. He found that in these cases the uric acid gravel, where it was present, always diminished or wholly disappeared, and it generally reduced the number of the gouty paroxysms. This seemed to be its only effect. He gave it in doses of 1 to 4 grs. thrice daily. This medicine has since been extensively used both in England and in this country, and now ranks above all the other solvents of uric acid.

It is a white powder, with a decidedly alkaline taste, soluble in 100

Digitized by Google

parts of cold water but insoluble in alcohol. The dose is stated at 3 to 6 grs. considerably diluted with water, to be taken three or four times a day.

Good results may also be expected from this medicine in rheumatism. It is said to be an excellent diuretic. The only objection to it is its expense.

The *citrate of lithia* is also used. It has the advantage of being far *more soluble* than the carbonate, being also less disagreeable to the taste, less apt generally to disturb the stomach. It acts precisely as the carbonate, and may be given in 5—10 gr. doses.

Narceine. This alkaloid principle of opium seems until lately to have been considered almost inert, and in consequence has been entirely neglected. The U. S. Dispensatory, edition of 1858, says: "It has not been ascertained to have any influence upon the system. Two grains were introduced into the jugular vein of a dog without observable effect."

A revolution seems to have taken place in the minds of some of the profession with regard to the physiological action of this medicine. I quote from the *Lancet*, June 9, 1866, p. 33: "In the last number of the *Journal de Chimie Medicale*, there is an abstract of M. Linne's researches on the above subject (Physiological Action of Narceine), from which we perceive that the following conclusions have been arrived at: (1) Narceine is unquestionably, of all the alkaloids of opium, that which has the greatest narcotic power. In the majority of cases, morphia and codeia do not produce as sound, or as prolonged sleep, as results from the use of narceine. (2) Narceine differs from the other alkaloids of opium in producing little perspiration, and in causing no loss of appetite or nausea. (3) So far from producing constipation of the bowels, it causes relaxation, and in large doses actually gives rise to diarrhœa. (4) It not only produces sleep, but diminishes pain. (5) It has one peculiar action: it suppresses the flow of urine." On the same subject, I find in Parrish's Pharmacy that its effects seem to be principally directed to the lower portion of the spine, since it decreases the mobility and sensibility of the lower extremities. Should these statements be confirmed by future investigation and further experience, I suppose this heretofore discarded alkaloid will take a high position in the list, although I doubt if it will ever supersede that favorite and most invaluable class, the morphine salts.

Syrup of Phosphates of Iron, Quinine, and Strychnine. This is a powerful combination, which was first recommended by the late Dr

Digitized by Google

Eaton, of Glasgow, and since by Dr. Aitken, in his Practice of Medicine. One could hardly conceive a more useful or more potent preparation. Each one of the ingredients is held in such high esteem, and produces such excellent results, that we necessarily anticipate much from the concert of action of them all. It is said to be well borne in the majority of cases; acts as an invigorating stomachic, improving the appetite, promoting digestion, causing assimilation to be carried on in a more perfect manner.

As a chalybeate, easily and speedily acting upon the blood; as a reconstructive tonic, it must be well adapted for all chlorotic and anæmic states. The strychnine salt, as a nervine tonic and stimulant, exercises a very beneficial agency in strumous constitutions, producing a roborant and alterative action over the nervous apparatus, thereby favoring the healthy function of nutrition. And quinine, bringing about its characteristic general tonic effects, together with the phosphoric acid, produces a compound which can be exceeded by few, if any, of the preparations now in use. It is said to be admirably suited to the depressed states of the system in the aged, those conditions tending to adipose degeneration of important organs; also where a combined tonic and styptic effect is desired, as in albuminuria in chronic disease of the kidney.

I append the formula by which it is prepared.

℞—Ferri sulph. ℥j,
Sodæ phosph. ℥j,
Quiniæ sulph. grs. cxcii,
Acid sulph. dil. q. s.,
Aquæ ammoniæ q. s.,
Strychniæ, grs. vj,
Acid phosph. dil. ℥xiv,
Sacchar. Alb. ℥xiv.

Dissolve the sulph. iron in 1 oz. boiling water, and the phosph. soda in 2 oz. boiling water; mix the solutions while hot; phosphate of iron will be precipitated, which is to be washed till washings are tasteless. With sufficient dil. sulph. acid dissolve the sulph. quinia in 2 oz. water. Precipitate the quinia with ammonia water and wash it. Dissolve the phosph. iron and the quinia thus obtained, as also the strychnine, in the dil. phosph. acid, then add the sugar, and dissolve the whole, mixing without heat.

The dose might be a teaspoonful three times a day, containing about 1 gr. phosph. iron, 1 gr. phosph. quinia, and 1-32 grs. of phosph. strychnia.

Digitized by Google

Guarana is the name of a medicine which will probably be in general use ere long. It seems to give promise of being a valuable addition to the Materia Medica. It was introduced into Europe from Brazil, and is said to contain a principle identical with *caffein*. It is prepared from the seeds of the Paullinia Sorbilis, a climbing shrub, belonging to the class and order Octandria Trigynia. It obtains the name of Guarana from the native region of the plant (Guarana), in Uruguay. The Guaranis, or aborigines of that portion of the country, are said to use it extensively as a corrigent to their vegetable diet. They prepare it by powdering, mixing with water, exposing it for awhile to the dew, then forming into a paste, which is moulded into different shapes and dried. It is said in its taste and odor to bear some resemblance to chocolate.

Caffein has been found in but four plants, viz: coffee, tea, Paraguay tea, and the paullinia; the quantity being greater in the paullinia than in any of the others—over 5 per cent.

It is by some considered to be tonic, but with more certainty we may attribute to it properties analagous to those belonging to tea and coffee; it is, in all probability a nervous stimulant. Dr. Gavrelle, who was physician to Don Pedro, in Brazil, recommended it very highly in the diarrhœa of phthisis, and generally as a tonic. It is found to be of advantage in gastralgia, and in gastritis. But perhaps more benefit may be derived from it in neuralgic affections, and particularly in that very common disease generally known as sick headache, which arises from a primary disturbance in the stomach. It produces its stimulant action upon the mucous membrane of the stomach, relieving primarily the gastric trouble, and secondarily the head. Or, probably there may be a stimulant action exerted primarily upon the brain also. In these distressing and obstinate nervous complaints, the guarana may be found to be the one thing needed, particularly in those cases in which opium cannot be tolerated. This medicine is mentioned favorably in the Treatise on Therapeutics, by Trousseau & Pideau. It may be given in doses of one or two drachms, scraped into powder and mixed with sweetened water; or in the form of spirituous extract, 8-10 grs. in pill. Guarana powders, prepared by Grimault & Cie, Paris, may be obtained of some of the apothecaries of this city. They may be taken in sweetened water, or with coffee or chocolate.

I will close this brief and imperfect review, by noticing a new mode of administering charcoal, which I find mentioned in one of the last year's numbers of Braithwaite. Charcoal has long been favorably

Digitized by Google

known and extensively used in the treatment of dyspepsia, gaseous distension of the stomach, etc., particularly in France, where it was introduced by M. Belloc more than twenty-five years since. The usual way of administering was in water, or in the form of lozenges or cakes, which must be thoroughly saturated with saliva before they can be swallowed. Dr. Lared, in his article, thinks that these modes are objectionable, inasmuch as the article thus used cannot produce its full effect. The absorbent power of charcoal is slightly weakened by pulverization, much impaired by damp, or by soaking in water, and altogether impeded by being covered with water. Dr. L.'s idea is, therefore, that it should be given *dry*, and a *fresh state*. His device was to administer the ordinary wood charcoal, freshly prepared, and hermetically sealed in gelatine capsules.

As it relieves gastric flatulence by mechanically absorbing the distending gases, it follows that the greater the number, capacity, and potency of the pores, the greater will be the amount of absorption; so that a small quantity introduced into the stomach in the *dry* state, its pores being free to absorb, will produce a far better result than a very large dose given in water, which saturates it, filling its pores, leaving little, if any, room for the gases which we wish to remove. Another advantage is, that the dry charcoal will float upon the surface of any fluid which it may encounter in the stomach, while that previously saturated with water will sink to the bottom, in this way stopping entirely the absorbing process.

ART. XI.—*Remarks on Syphilis:* By D. P. FENNER, M. D., New Orleans.

No. 1.

Diagnosis and Treatment of the Primary Syphilitic Ulcer.—By the term primary syphilitic ulcer, I mean that infectious venereal sore which is the first evidence of that fearful disease whose catalogue of evil effects are sometimes years in being evolved; which once raged as a scourge over the civilized world, and now so often proves a bar to the happiness of many who are its unfortunate victims.

Though the study of venereal diseases has for centuries attracted the attention of the best minds of the profession, yet it is only in the past

Digitized by Google

few years that the most prominent authors on the subject, in different countries, have united on a satisfactory opinion and explanation as to the true nature and course of the disease, and its proper treatment. An old author says: "Of all ambitions, that of being thought learned has proved the greatest ignis fatuus of real knowledge; for it has driven sometimes even men of abilities to such lengths as must have made them blush at their own doctrine; yet so great is the dread of being thought in the wrong, that, even at the expense of integrity, they have persisted in the support of their errors." The truth of this remark has never been more clearly shown than by writers on venereal disease. Teacher after teacher advanced theories for whose truth they and their followers fiercely contended, the errors of one being overthrown only to be succeeded by the errors of another. Facts were distorted and turned in every conceivable manner to suit the views of each. Statements and statistics were published which had not the shadow of foundation in fact. So that the real searcher after truth became soon mystified and confused by the opposite statements of different authors, and even though not convinced, followed some one, or, rejecting all, trusted to his own experience and general knowledge of disease for grounds upon which to base his practice. Now though, out of all this discussion truth seems to be embodied, and, thanks to the earnest labors of M. Clerc, Diday, Sigismund, of Vienna, Von Barensprung, Henry Lee, and others, the true nature and course, and the correct diagnosis, treatment and prognosis, of this class of disease, is as clearly demonstrated as any disease in all the list; yet the mass of the profession are still ignorant of the distinction between the poisons, the differential points of diagnosis, and the rational mode of treatment.

Even now, with the majority of the doctors throughout the land, the mere existence of a venereal sore is considered sufficient cause to subject the patient to a long course of mercurials, iodine, iodide of potassium, arsenic, etc., frequently by their injudicious medication producing disease in the unhappy patient, and keeping the mind in a state of uncertainty and constant fear of an outbreak of syphilis—in itself no inconsiderable source of suffering to many sensitive minds.

Although gonorrhœa and chancre have long been acknowledged as produced from different poisons, yet, that there are varieties of chancres which are proved as produced by two separate and distinct poisons, distinguishable one from the other—the one a comparatively mild and harmless affection, the other the sure precursor of that train of symptoms known as the secondary and tertiary forms of syphilis—is a fact as yet comparatively unknown.

Digitized by Google

Venereal diseases are spoken of by the ancient authors of all countries whose works have been preserved to us; but, as is well known, the virulent syphilis suddenly made its appearance in the latter part of the fifteenth century, and soon spread throughout Europe. Where it first originated is still a mooted question. The physicians in those days looked on it as a new disease, and did not then confound it with other venereal diseases, which had been always treated as simply local affections, but noticed that this new disease became soon general and constitutional, and required internal medicines to combat it.

In later times the disease became confounded. John Hunter, in 1786, taught that the various venereal sores and gonorrhœa depended on one and the same poison; that infection from a gonorrhœa might produce a venereal sore and secondary phenomena, or that infection from a sore, a gonorrhœa and secondary results, the variations in different persons depending on the constitution and habit of the patient at the time. He inoculated himself with matter from a gonorrhœa, making two punctures, one on the *glans*, the other on the *prepuce*. Two results followed: the one on the prepuce itched from the third to the fifth day; on the fifth the puncture was red, swollen, and thickened; a speck became visible, and in a week this speck suppurated; the urethra commenced at the same time to discharge. The inoculation on the glans was followed by itching fourteen days after the puncture was made; three days after a speck appeared; this became a papule, then a pimple, and ultimately discharged yellow matter. The sore on the prepuce broke out several times after it healed, but that on the glans did not. Ulceration of the throat, and copper-colored spots of secondary syphilis, appeared in due time, the term of the infection, from the beginning to the cure, being three years.

The latest developments in the knowledge of this disease, gives us an explanation wherein the error of Hunter consisted. He believed that he had inoculated the specific discharge of a gonorrhœa *only*, but the patient either had a concealed chancre with his gonorrhœa, or else he may have been suffering fromsecondary symptoms at the time. For though such, effects as that described as taking place on the prepuce, is described by numerous experimenters, as following inoculation from a gonorrhœa, no such results as that described as taking place on the glans, or secondary lesions following, ever occurred; but such phenomena do invariably result from inoculation from certain sores on the penis and other syphilitic lesions, when performed on a subject free from the disease. But to Hunter we

Digitized by Google

owe a description of the indurated chancre, which he pointed out as being peculiarly liable to be followed by secondary symptoms, and which he declares never got well unless the patient was treated with mercury. Carmichael in Scotland, and Cazenave in France, also taught the *unity* of the virus.

To Ricord is due the credit of having established, by numerous experiments, that the matter of gonorrhœa, inoculated on the skin, pro duces no specific results; that the matter of gonorrhœa on the mucous membrane of prepuce, glans, or in the urethra, produces a gonorrhœa, and never anything else; and that the matter from a specific venereal sore produces a specific sore, but never a gonorrhœa—consequently, there were two kinds of virus. Ricord also recognized two classes of chancre, the hard and the soft, but believed that they originated from the same virus. He also noticed that the induration around the hard chancre never took place twice in the same subject.

The latest writers and authorities on the subject, who have already been mentioned in this paper, teach, not only that Ricord was right about there being two kinds of virus, but that there is also a third kind, a doctrine in which Ricord himself has lately concurred. They teach that there is a virus that gives rise to a gonorrhœa, and a virus that causes certain venereal sores, but that neither of these two are attended or followed by constitutional infection; but that there is a third virus, which, being absorbed into the system, undergoes a period of incubation, and then manifests itself by the appearance of a peculiar sore at the point where the matter was first observed; that a general glandular engorgement soon follows, and that the class of symptoms which we have called secondary and tertiary syphilis are the effect of this virus, and of this only.

Setting aside gonorrhœa as caused by a separate virus, a fact acknowledged by every writer of note except Vidal de Cassis, (and he, it is notorious, *treats* the affection as a simple local disease,) it is only necessary to show that there are two different poisons producing venereal sores, widely differing in origin, character and effects. The evidence on the subject has been verified in almost every large city of Europe, is perfectly convincing, and is now receiving the faith of the profession. Confining myself simply to the result of these researches, I cannot more distinctly point out the difference between the two affections than by quoting "The Diagnostic Characters of Chancroid and Chancre," from the excellent work of Bumstead on Venereal Diseases, page 347, Revised Edition, only prefacing it with the remark that he calls the

Digitized by Google

"*non*-infecting," chancroid, and the "infecting," chancre, an unfortunate manner of distinction, as chancre has always been the name for primary venereal sore. It would have caused less confusion had he called the last named primary syphilitic ulcer.

THE CHANCROID.	THE CHANCRE.
Origin—Always derived from chancre or virulent bubo. Has no period of incubation.	*Origin*—Always derived from a chancre or syphilitic lesion.—Has a period of incubation.
Anatomical Characters—Generally multiple, either from the first or by successive inocculation. An excavated ulcer, perforating the whole thickness of the skin or mucous membrane. Edges abrupt and well defined, as if cut with a punch, not adhering closely to subjacent tissues—Surface flat but uneven, "worm eaten," wholly covered with grayish secretion. No induration of base, unless caused by caustic or other irritant, or by simple inflammation; in which case the engorgement is not circumscribed, shades off into the surrounding tissues, and is of temporary duration.	*Anatomical Characters*—Generally single; multiple, if at all, from the first; rarely, if ever, by successive inoculation. Frequently a superficial erosion; not involving the whole thickness of the skin or mucous membrane. Of a red color, and nearly on a level with the surrounding surface. Sometimes an ulcer, when its edges are sloping, hard, often elevated, and adhere closely to subjacent tissues. Surface hollowed or scooped out, smooth, sometimes greyish at centre. Induration firm; cartilaginous circumscribed, movable upon tissues beneath. Sometimes resembles a layer of parchment lining the sore. Generally persistent for a long period.
Pathological Tendencies—Secretion copious and purulent. Auto-inoculable. Slow in healing. Often takes on phagedenic action. May affect the same person an indefinite number of times.	*Pathological Tendencies*—Secretion scanty, chiefly serous; inoculable with great difficulty, if at all, upon the patient or upon any person under the syphilitic diathesis. Less indolent than the chancroid. Phagedena rarely supervenes, and it is generally limited. One attack affords complete or partial protection against a second.

Digitized by Google

Characteristic Gland Affection—Ganglionic reaction absent in the majority of cases. When present, one gland acutely inflamed and generally suppurates. Pus often inoculable, producing a chancroid.

Prognosis—Always a local affection, and cannot infect the system. "Specific" treatment by mercury and iodine always useless, and in most cases injurious.

Characteristic Gland Affection—All the superficial inguinal ganglia on one or both sides enlarged and indurated, distinct from each other, freely movable, painless and rarely suppurate. Pus never inoculable.

Prognosis—A constitutional affection. Secondary symptoms unless prevented or retarded by treatment declare themselves in about six weeks from the appearance of the sore, and very rarely delay longer than three months.

The ulcer described as chancre is infecting in one sense, that is, it is capable of infecting others, but is not a source of infection to the body on which it appears. The appearance of the sore is evidence that the constitution is infected. The poison being introduced, has undergone a period of incubation, and this sore results from the influence of the poison on the system, precisely like the vesicle of vaccination and the morbid effects of several other animal poisons. This is proved by the length of time which elapses before the sore appears, generally about fifteen days, but varying from one to six weeks, and by its not being auto-inoculable, or very rarely so, never producing a similar characteristic sore.

The primary ulcer may be inoculated on any part of the body. It generally appears as a papule, which takes on superficial ulceration, making a sore which is slightly excavated or it may be elevated, appearing as an erosion. The discharge is mostly serous, in fact some contend that all discharge of pus is owing to accidental irritation by cloths, etc. Induration of the base and edges commences at once, is well defined, and is either hard, extending to considerable depth, or is a thin layer, feeling like a parchment; this induration is, however, not invariably present, and must not be confounded with ordinary inflammatory induration. The ulcer has sometimes all the characteristics of the old "Hunterian Chancre." It rarely sloughs, and when phagedena does take place it is an extremely unfavorable symptom, as those cases suffer most when the disease has reached its secondary and tertiary phases. Induration of the lymphatics on the dorsum penis and of the right or

Digitized by Google

left inguinal glands or both is an almost unfailing consequence; these glands, however, are seldom acutely inflamed. Bumstead says the pus from such buboes are not inoculable. I should think this statement requires confirmation. It would not, of course, be *auto-inoculable*, but since experiments have proved that these ulcers may result from the secretions of secondary eruptions, and from the blood of persons suffering from the disease, it appears to me that similar results might arise from such inoculation.

That the original papule, in extremely rare cases, may not ulcerate at all, and entirely escape the attention of the patient, is now generally admitted. Some French observer has reported several cases of men upon whom the secondary symptoms appeared without an ulcer ever being noticed, but the women with whom these men had stayed were found to be affected with the characteristic ulcer. A case occurred in this city, some years ago, of a gentleman upon whose penis a papule appeared which never ulcerated, and soon disappeared, and which the most prominent surgeons in this city declared was not syphilitic, yet in two months he was a well marked case of secondary syphilis.

A patient may have, at the same time, the simple venereal ulcer and the syphilitic, or these may take place at the same point, and produce what is called the "mixed chancre;" in this case, the secretion would be auto-inoculable. Suppurating buboes also might occur, whose pus would be auto-inoculable.

Our chief reliance, then, in the diagnosis of primary syphilitic ulcer, rests on these points: the length of time after exposure before it appears; its appearing as a papule; scanty secretion, which is not auto-inoculable; characteristic induration, at the base of the sore, lymphatics and glands; generally single; if multiple, so from the beginning. In the mixed chancre, the sore would make its appearance in two or three days, but *induration* would be delayed two or three weeks; in auto-ineculation the sore would never be indurated.

In the treatment, of course it would be useless to cauterize with the hope of eradicating the poison, as in the simple venereal ulcers, as the disease is already constitutional when the papule appears. Cleanliness, mild astringent lotions, and protecting the parts with lint, is the local treatment required.

A mild course of mercury, if there be no serious objection to the use of this medicine, should be commenced as soon as the nature of the sore is diagnosed; this will speedily cause the induration to disappear, and the sore to heal. This healing frequently takes place first, leaving an

Digitized by Google

indurated cicatrix, and the mercury should be persisted in until this induration is resolved. The iodide of mercury, in the form of Ricord's pills, is a favorite prepartion with many. Bumstead recommends two grains of blue mass, with a little opium, every night, in a few days taking it morning and night; or the following: ℞. Hydrarg cum. creta ℈ii, quiniæ sulph, ℈i, Ft. pil. No. xx, to be taken in the same manner. This prescription I have used several times, and have been much pleased with the results. As soon as the mercury salivates, or as soon as the induration disappears, it should be stopped, and the patient put on iron and the bitter tonics.

The patient should be advised to abstain from intoxicating drinks, unless an habitual drunkard, abstain from the use of tobacco, eat simple but nutritious food, and take moderate exercise. If his appetite fail he should take some aperient tonic, as soda, tincture rhubarb, and infusion of columbo, or small doses of nitro-muriatic acid in infusion of gentian.

I need hardly add, in concluding this paper, that as no ulcer, not having the characteristics pointed out as pertaining to the varieties enumerated, will be followed by secondary symptoms of infection, "specific treatment" is not only useless, but may be positively harmful.

ART. XII.—*Craniotomy:* By D. WARREN BRICKELL, M. D., Professor of Obstetrics, etc., New Orleans School of Medicine.

LECTURE.

GENTLEMEN—After rather a protracted consideration of the obstetric forceps, with the great object in view of inducing you to use them for the purpose of saving the lives of the greatest number of women and children, as well as of vastly limiting the sufferings of the woman, both during and subsequent to labor, it seems to me that the operation of Craniotomy very properly comes up for consideration. I have long been convinced that as the use of the forceps becomes more common among well-informed members of our profession, Craniotomy will become less frequent, and the two subjects can be most profitably studied together. Not that Craniotomy will ever be entirely eradicated from our practice, but that the clear comprehension of the indications for the use of the forceps will force the more formidable operation closely into its legiti-

Digitized by Google

mate limits, and relieve us from the opprobrium of unnecessary sacrifice of human life under color of scientific dictation.

There was a time when the practitioner of obstetrics was seriously deterred from the performance of Craniotomy by a consideration wholly without the pale of medicine. Happily, I think, for humanity, a more extended civilization has almost uprooted the foundation of the obstacle interposed, and we go on in the performance of our duty as scientific men dealing with the sufferings of our species, tramelled only by a sense of duty to study profoundly the question in its professional aspects. Still, every now and then we encounter the obstacle in some degree, and it is meet that you should appreciate it and be ready to defend yourselves, the profession you represent, and the parturient woman from an attack which, however sincerely conceived, however well meant, we are bound to regard as dangerous to our patients and to ourselves.

To perform Craniotomy on the living fœtus is to destroy its life. There are religionists who denounce this act on our part, planting themselves firmly on the propositions, 1st, that mortal man is conceived in sin, and that he cannot partake of salvation if he dies unbaptized; 2d, that man has no right whatever to take the life of his fellow man—that only the Power that gave can with impunity take.

To my mind, the first proposition is easily and satisfactorily met. Admit its truth, and let baptism be instituted even though the child be still *in utero*. If the living child be born before us and we baptize, the manipulation is only more readily performed. It can be done as *efficiently* for the unborn, for to perform Craniotomy we must bring our hands in contact with the head. It cannot be necessary to see the child. Or even if this be considered necessary, then through the medium of the speculum vaginæ, the requirement can be most thoroughly complied with.

The second proposition is one over which we may have to contend more strenuously. The position of the strict constructionist is totally devoid of enlarged argument. It argues itself in a nutshell. We are left to combat it. How can we do it? 1st. We assert that Craniotomy is only undertaken when the child cannot be delivered *per vias naturales* by such means as do not necessitate its mutilation. 2d. The fact of impossibility of delivery of the child without mutilation raises the question of the relative merits of destructive mutilation of the child and gastro-hysterotomy. The first destroys the life of the child; the second is a most formidable operation for the mother, and by no means insures the life of the child. To this date, obstetric authority is in

Digitized by Google

favor of the former. 3d. If the alternative is put before the obstetrician to destroy the child by Craniotomy, or stand by and see the mother die, he hesitates not to destroy the child. We say, here are *two* lives at stake—not one. The one is far more valuable than the other. The one individual is come to maturity in this world; she has responsibilities as wife, mother, citizen; she has formed ties and fixed her affections, and the dearest affections are fixed on her; she has religious fears or anxieties. The other is stripped of every such attribute. Ask husband, children, parents, friends, which shall be sacrificed under the necessity. The answer is given without hesitation, and that answer is dictated by the loftiest, the purest sentiments given us by our Creator. More, it is fortified by a sound philosophy, which urges us to accept the lesser of two evils when forced to choose. We say even if it be but one life that is to be lost, and that be the mother's, if the privilege be granted us, as obstetricians, to substitute the child's death for that of the mother, we will do it when such is the light in which the subject comes up before us. But obstetricians have omitted to place the matter before the dissenters in its full force. It is not one life that is threatened, and a simple alternative allowed us to substitute. It is *two* lives at stake, and we are called on to destroy the one in order to save the other. *If the mother dies during labor with her child in utero, the child dies too.* Aye, more than this; *the child dies before the mother.* Does any man cite the rare cases of sudden death in labor, where Cæsarean section may possibly deliver a living child, as exceptions? I reply that the exceptions cannot be considered as belonging to our subject. If they did, they would be as a grain of sand in a bushel.

But, say the dissenters, "let the two lives go; He who gave the life is taking it. You are not warranted, under any circumstances, in knowingly taking life." Then if a fellow-being is about to destroy my life, I, who have large responsibilities resting on me, I cannot take his to prevent it. "Yes, but that is done in self-defence, and it is excusable." Can not even this argument be brought forward for the woman? In the every-day practice of medicine and surgery, we find the lives of our patients threatened. It is under the immutable laws which the Creator has established that this threat of life has occurred. Do we think it wrong to step in, as medical men, and interfere with the operation of these laws? He would indeed be pronounced insane who would say so. It is a great law of the Creator, that a man shall have two legs for purposes of locomotion. But disease attacks one; life is threatened, and to save life we violate the law and amputate the limb.

Digitized by Google

The limb is lost, but the individual—perhaps the head of a family—is restored to the satisfactory performance of all the ordinary functions peculiar to our kind. As obstetricians, we say the injunction that we shall not kiil is a law subject to violation. To kill wantonly, to kill maliciously, to kill even ignorantly, is not the excusable violation of the law. But here is the parent trunk, with the branch still attached; there is no separate, no independent existence of the branch; the sap of the trunk still supports it; let that even seriously ebb, and the branch withers; let it cease to flow, and the branch *dies*.

The great physiological act of dehiscence, of separation for independent existence, is begun, but cannot be normally ended. If the branch is cut off—sacrificed—the parent tree is saved; if it is not, tree and branch die. Law creative is violated in this very failure to completely reproduce. Is it not the legitimate province of the obstetrician to step in with scientific law, and even practically restore the balance? Surely there is no analogy between such a condition of things and the destruction of a child that has been born of the mother and is living independently. If, after such birth, for the sake of argument, you ask me to kill the child to save the life of the mother, I reply, it must first be shown that such result could follow—an absurdity on its very face. But granting the proof of the result, the subject is one entirely without the bounds of medicine.

To destroy the child under our obstetric indications is really a self-defensive act. True, the woman is incapable of the destruction herself, and the obstetrician becomes the substitute. Still we must never lose sight of the fact, that the analogy is incomplete in the point that in a strictly self-defensive struggle for life between two men, the rule is that *one* life is to be destroyed, and the struggle is to define that one; in the case before us there are *two* lives to be destroyed, and we select the salvation of that considered by our species the more important.

But, gentlemen, to my mind there is the great physiological view to be taken of this matter, and on this all hinges. Until a child be born into the world, it is but part and parcel of the mother's flesh. It is fixed to her person; she furnishes it oxygen and nutrient materials from her blood; like any organ of her body it is physiologically endowed with the power of selection from her fluid life structure, and this fluid bears away from it all that is effete and deleterious. Cut off the mother's blood from one of her extremities, and it perishes and sloughs from her body: cut off the supply of blood from the child *in utero*, and it perishes and sloughs away as does the limb. There is no attribute

Digitized by Google

of separate, of independent existence, until the child be born and respiration be established. In properly appreciating the condition of things, it is meet, indeed, that we go back to the very starting point of the new being. From the ovary of the woman springs that portion which she furnishes of the new being; from the testicle of the man springs his portion. Each is microscopical; either by itself is utterly neutral. Bring the atoms together, and evolution begins; but fixation to the mother's person, incorporation with her body, is indispensable to continuance of evolution. At any moment during development destroy fixation, and evolution ends; death ensues. If it be unjustifiable homicide to destroy a full term child, it is the same crime to destroy the ovum while yet in the first month. Before male and female products come together life is the great prominent attribute of each, and we might push the argument against destruction even to that beginning. Every now and then we find the vomiting of early pregnancy pushed to that extreme that declares absolute starvation, and experience and the judgment of the obstetrician and physician tells him that the induction of abortion is the only means of saving the mother. It is induced, vomiting stops, recovery ensues—to say nothing of the imme diate relief of intense suffering. But to this no one objects. Yet, is not the life of the new being destroyed to effect the end? In the process of fœtal development, of the development of that being *conceived* in sin, who shall dare say when it has reached the point where, under scientific and humane rule, it shall or shall not be destroyed to save the live of the mother?

As obstetricians, then, while we yield to none a higher appreciation of life than we ourselves possess; while we admit the importance of baptism, we plant ourselves on the broad platform of humanity and physiological truth, and perform the operation indicated, not as a mere professional alternative, but as a duty from which there is no shrinking.

He who first taught that the sun did not move around the earth was persecuted for his teaching; but the human mind has been, under the immutable laws which control it, forced to accept the stern physical fact, and superstition has withered before it. So in relation to the question before us. In the performance of the professional duty under consideration, we come in conflict with no law, human or divine, and civilization is fast demonstrating the fact. But a few years ago quite a hue and cry was raised against our profession for administering chloroform to relieve the terrible pangs of parturition. And why? Because of the dogma that the parturient pangs are a part of the primeval curse

Digitized by Google

uttered against woman. Nevertheless the administration of chloroform for such purposes has fixed itself on the civilized mind, fettered only by the demands of science. It is the mission of the medical man to relieve human suffering, and he goes on extending the area of his usefulness from generation to generation. More, looking from the physiological platform, he sees no peculiarity in the parturient pangs of our species. On the contrary, in the reproduction of the domestic and inferior animals around him, he sees that physical suffering is a prominent feature, and he finds it impossible to say to the sufferer of his own kind that no balm is admissible on the ground alluded to.

We find, then, that there is no shadow of necessity for our attacking the dogmas or doctrines of the Church to sustain our position. On the contrary, it is only necessary to defend ourselves against attack. For this purpose only do I extend you, in the beginning of your career, the weapons we deem efficient.

But let us take up this subject in another point of view. And in doing so, I propose to place it before you primarily in a thoroughly practical way. If we resort to book authority, we shall find that this view of the matter is pretty much ignored, and another substituted, the study of which is eminently proper in its way, but which will at last fail to meet the exigencies under which we are called to act. I contend that we must study this subject as it *is* presented to us in practice—not as it *ought* to be. For instance, the great prominent scientific indication for Craniotomy is disproportion between head and pelvis; that is, we have a pelvis of normal size, and a head preternaturally large; or we have a head of normal size, but the pelvis is more or less contracted. In connection with this difficulty we have certain mechanical rules of action, the professional mind having been bent to the point of ascertaining how small a pelvis the normal full term head can be carried through without mutilation. Yet this is not the thoroughly practical aspect of affairs. For instance, I have been for twenty years paying especial attention to obstetric matters, and it is the rare exception with me to encounter a pelvis at all contracted, and I have never had to perform Craniotomy for such a cause. So, also, I have never encountered a completely ossified head, and I have rarely had to mutilate the head because it was altogether too large to pass through a normal pelvis. In other words, in our community deformities in the woman, and fœtal monstrosities, are rare. But we have to perform Craniotomy every now and then, and I propose to develope the subject to you as it has been practically unfolded to me, and this may help to better prepare you for

Digitized by Google

the exigency when forced on you, and to make you strive to steer clear of the rocks on which others wreck.

First, then, society being determined to largely trust the parturient female to the ignorance of the so-called midwife, we are called on to perform Craniotomy in the cases of the patients of these individuals oftener than under any other circumstances. Second, the spectre of "Meddlesome Midwifery" forever haunting the brains of a considerable number of our own brethren, a pervading fear of interfering with Nature's plans makes them oblivious of the real principles on which the obstetric art is based, and they indirectly combine with the midwife to make a class of cases that ought not to be found at all. Perhaps it is better that I should illustrate the class.

A few months ago, I was sent for by an old woman very learned in the obstetric art. I found her patient (a primipara) had been twelve or fifteen hours in the second stage of labor. The fœtal head was in the cavity of the pelvis; an immense caput succedaneum had formed, rendering detection of sutures and fontanelles impossible; the head was immovably fixed; the soft parts of the woman were dry, hot, and turgid; the uterus had long ceased to act, or the action was the feeblest, though the pain was great; the pulsations of the fœtal heart were not to be found; the most faithful efforts could not effect introduction of the forceps, for "impaction" existed. The general symptoms of the patient were becoming disagreeable; it was a self-evident proposition that she could not deliver herself, and Craniotomy was indicated and performed. It was then clearly ascertained that the pelvis was of good size, that the head was by no means a very large one, that it was a left occipito-anterior position, but that rotation had not taken place to a sufficient degree—in other words, that the head lay diagonally in the pelvis at the time when it should have been directly antero-posterior.

Now, I think this is an illustration of a class of cases that ought not to occur in the hands of any one, male or female, who pretends to assume the responsibilities of the lying-in room, if they are allowed the privilege of attending the patient from the beginning of labor. That it could be the condition of the woman so unfortunate as to have no attendant at all, there can be no question; but that at once raises the interesting question as to whether the ignorant midwife, or the anti-"meddlesome midwifery" accoucheur, are not just as good, or even a little worse, than no attendant at all. If a woman in parturient difficulty has no professional attendant, she is sure to seek the most competent she knows of. If she has such an attendant, and he or she is

Digitized by Google

ignorant or timid, she will be longer denied the assistance required, and she and her child suffer accordingly.

When we come to look at the matter in an enlarged sense, then, we who practice obstetrics, and who are called on to perform this most revolting of all obstetric operations, must see clearly how urgently we are appealed to, to give our unstinted attention to the great principles underlying our art. We may never hope to entirely reform that prejudice of society which hands the woman, in her greatest perils, over to the ignorant pretender, whether male or female; but we can modify the condition of things by purging our own practice of grievous errors which trammel it, and by clearly proving that in cases we primarily attend, this dire operation is absolutely rare.

I have introduced you to the most common class of Craniotomy cases I have encountered, viz: physical difficulty, without deformity or obstructive growths of any kind, and founded in either ignorance of the existing deviation, or unbounded faith in the ability of Nature to overcome all parturient difficulties. In any of the conditions, then, where Craniotomy becomes legitimately admissible, the very same unfortunate ignorance or faith may illegitimately multiply the cases of operation. Our authorities admit Craniotomy in reduction of the diameters of the pelvis; in preternatural size of the head; in extraordinary ossification of the head; in pelvic obstructions, whether bony or otherwise; in hæmorrhage; in convulsions; in syncope; in impaction of the head, from whatever cause; in rupture of the uterus. I do not say that every book you may meet with admits these conditions, but that in reading a large number you will find them admitted. To this list, for instance, I can add another condition, which I have myself encountered, viz: a thoroughly rigid perinæum, apparently the result of old cicatrization, where the child was unquestionably dead, and where Craniotomy seemed infinitely preferable to the mutilation of the perinæum.

And another—rigidity of the *os uteri*, refusing to respond to remedial measures, with death of the child, and where mutilation of the parts of the mother involved must have been extensive, and where the gravity of results to be anticipated seemed eminently less after Craniotomy.

And again. About a year ago, I was sent for in consultation to a parturient woman, whom I found with continuous spasmodic action of the uterus (utterly inefficient in a propulsive sense), with thoroughly prolapsed and pulseless cord. The head presented freely in the brim

Digitized by Google

and by the vertex. I applied my forceps, and found by the distance between the handles that they embraced a very large head. Compression and traction soon showed me that, while delivery by this means could in all probability be effected, the effort would be a protracted one. Had the child been living, I would have subjected the woman to this effort, and to the fullest extent compatible with her safety, but it was certainly dead; she was suffering greatly; in this particular case Craniotomy would more speedily relieve her, and I performed the operation unhesitatingly.

In the case of any one of the general conditions named, you, of course, understand, that Craniotomy is not indicated merely because they exist, but because, while they do exist, delivery cannot be otherwise as safely accomplished for the mother. A woman may have a pelvis considerably deformed, yet her child may be a small one; or if it be of full size, the head may be unusually imperfectly ossified; and in either case, delivery by means of the forceps may be effected. A woman may have terrific convulsions, you may be called in late, and may see that life is eminently threatened in each paroxysm; but you may find that the forceps or version can speedily effect delivery, and perhaps with safety to the child. On the other hand these means may be totally inadequate, and Craniotomy may be distinctly indicated. So in cases of hæmorrhage, etc., etc. In other words, we do not propose Craniotomy as a remedy for the difficulties we encounter, unless our other resources are inadequate. But just here is the interesting point. I have shown you that in one of the simplest forms of deviation in the mechanism of labor, I have been called on to perform Craniotomy; yet not because all the means had failed, but because no other means had been tried, and the case passed from that of simple deviation to what may be trnly termed a complication, viz: "impaction." Now, I have never had a case of "impaction" to occur where I have been in attendance primarily, and simply because I do not wait for it to take place. As soon as I find a woman the subject of deviation, I go to work to rectify the same; and if a woman cannot deliver herself by reasonable exertion, instead of running the risks of delay, such as I have depicted them to you, I effect her delivery. So, also, under the other circumstances named, my aim is to at once effect the delivery by means which do not involve additional danger to mother or child, and thus Craniotomy is a thing I hardly ever dream of in my own practice.

The matter, then, resolves into this. You are primarily attending a woman in labor, and you recognize a difficulty to be overcome. Is the

Digitized by Google

woman capable of overcoming this difficulty without assistance from you, and without running any risk of multiplying evils by her efforts? If so, you do not interfere. If not, I say you are bound to adopt at once such means as will with the greatest chance of safety to mother and child effect delivery. I have shown you that the neglect to do so can in itself come to necessitate the operation we have under consideration, and then we have a case by no means as satisfactory as it would otherwise have been to the mother. But suppose we early recognize the fact of the inability of the woman to deliver herself, and at the same time find that we cannot by other means than Craniotomy free her from her trouble. Then, I say, Craniotomy is to be as freely performed as any other operation. At first our solicitude is for mother and child, and we should study well to be able to weigh the chances of relief. It must be a terrible reflection, that of having performed Craniotomy on the living child for mere convenience sake, or because we were ignorant of the time for or mode of applying more satisfactory measures. But think not that there is anything pleasant in the reflection that we have delayed Craniotomy so long that now, when we do perform it, sacrificing the child, the woman has no power of reaction; or, if she does react, she is subjected to long protracted recovery, or is for the remainder of a long life thereafter the subject of some loathsome infirmity, the result of her labor. No, we must lift Craniotomy from such a point as this. It must be classed with the great surgical operations. These involve great danger to life, but they are undertaken to save life. They are alternatives in the midst of evils, and the true surgeon as cheerfully amputates a thigh as he would a finger. So let it be with Craniotomy. If a child be dead before we perform it, then it is as cheerfully done as is the opening of an abscess. If the child be living, only be sure of the necessity for the operation, and then operate. I say again, do not delay it because it is a dire operation, and thereby, while diminishing the advantages to be derived (and adding nothing to the chances of the child), add to the popular prejudice which already exists against it. Let not the old saying be repeated, "the doctor used instruments, and then she died." True, any patient may die after you have used instruments most satisfactorily to yourself, both as to time and the nature of the instrument used, but let us strive to make death the rare exception—as we can do.

You will now see clearly that it is impossible to lay down any rule for the performance of Craniotomy. The nearest approach we can make to this is in the mechanical aspect of the subject, or in the study of the

Digitized by Google

relation of the head to the pelvis; and even in this regard we can only generalize. It is simply impossible to define to the learner to just what sort of a case of convulsions, or hæmorrhage, or syncope, Craniotomy is applicable. The primarily important point is to impress him with a due appreciation of the fact that these are all grave conditions, that the subjects of them are to be assisted, that we have at our command means of assistance that are nearly always available and at the same time compatible with the safety of mother and child, and that Craniotomy is his means when he cannot otherwise save the mother. The rest must be left to the judgment of the practitioner. But you will say this is a very incomplete art that is not fixed on a more certain basis. I say no. With variations in age, health, temperament, surrounding comforts, etc., etc., it will be but charlatanry to attempt to fix a line by which every practitioner shall walk in every case. There are inevitable principles underlying the art, and these principles in being made available for suffering woman must be subjected to association with the judgment of the practitioner. If that power be weak in the practitioner, it is the misfortune of the sufferer. This is a difficulty encountered by our species in many of the important relations of life, and it will continue to be so to the end of time. In contemplating the fact, we only find the greater stimulus to exertion in the prosecution of the study before us.

On the point of mechanical difficulty the result of deformity of the pelvis, I have told you that my practical experience has been limited, as deformities of the kind are rare here. Still, under the conviction that I am liable at any moment to be brought in contact with a case of the kind, I have made it my business to try to comprehend the difficulties and dangers. Considering the compressibility of the fœtal head that we find under the vigorous parturient effort, and that which we witness under the application of the forceps for delivery, and in experiments instituted on the dead fœtus after delivery, I am sure I should be in favor of Craniotomy where the conjugate pelvic diameter is at all below three inches. I do not believe an average head can be brought through such a diameter by the forceps, or by version, without the exercise of such severe and protracted impingement on the woman's tissues as would probably induce more disagreeable results than the death of the child alone; and I very much question if the meagre results we would achieve by such operations, in the way of saving fœtal life, will begin to balance the evils to be anticipated for the woman. Of course, in such cases of contraction of the pelvis any natural diminution of the head below the normal standard is in favor of both mother and child, and the case is an exception to the rule we consider.

Digitized by Google

I should not omit to tell you that Prof. Simpson, of Edinburgh, has written an elaborate article to prove the propriety of turning as an alternative for Craniotomy in these cases of contraction, and great credit is due him for the ability and ingenuity with which he has put the subject before the profession. He argues that the fœtal head should be viewed as a wedge, which, in natural labor, comes by the butt—the vertex—but which, in the case before us, should be brought, by means of version, by the edge—the base of the cranium—, and on the plain mechanical principle that a compressible wedge of the kind will certainly pass through a diminished space by the edge more rapidly than by the butt. I cannot help commending to your careful perusal the monograph alluded to. In it you will find much "food for reflection." Still, I must warn you against reading a persuasive article of the kind without being determined to think for yourselves. There is one point which I am sure Prof. Simpson has overlooked. In his anxiety to deliver an unmutilated child, he loses sight of the fact that in thus pulling the head through the contracted pelvis, necessarily considerable time is consumed, and almost certainly the child dies from two causes—viz: ineffectual efforts to breathe after its lower extremities and much of its body have been drawn into the external world, and such reduction of the size of the uterus as must necessarily vastly interfere with, or completely annihilate, the function of the placenta. Observation in ordinary breech cases teaches us clearly that it requires very little delay after delivery of the body of the child to effect death, and, reasoning on this basis, the most thoroughly legitimate, I feel assured that the rare exception would be to extract a living child by version as recommended. It would be one of those happy "accidents," so-called, not to be expected on any fair process of reasoning, and hence totally unavailable to the scientific obstetrician in establishing a principle. If we attempt a substitute for Craniotomy—the operation only being deemed admissible on the grounds laid before you—I contend that we have two points to settle—viz: that we do positively save the lives of children that would otherwise be sacrificed, and that in doing this we do not diminish the chances of the mother.

Passing from the consideration of the point of pelvic contraction at which, for the sake of the mother, I should be disposed to resort to Craniotomy on a well developed fœtus, it becomes a matter of serious import to fix the point of further contraction at which Cæsaran section becomes the substitute for this operation—always remembering that our action is based on the supposition of the existence of a head of standard developement.

Digitized by Google

It must not be overlooked, that antero-posterior deformity of the pelvic brim is the result of the promontory of the sacrum approaching the pubis—and not the reverse: hence the important point urges itself on our consideration, that diminution of space is not the only difficulty. On the contrary, the change of direction of perforation and traction is greater as the deformity is increased, and, in my opinion, must add greatly to the difficulties of the operation of Craniotomy. In other words, the narrower the conjugate space, the closer you must operate behind the pubis, and, in order to draw the head into the pelvic cavity, the traction must be so decidedly backwards as to become most embarrassing. In this way protracted impingement against the woman's tissues, and great delay in delivery, tend to diminish her chances. As I have said before, I have not yet been called on to perform Craniotomy on account of pelvic deformity: in such cases of contraction as I have encountered the forceps and version have sufficed; but I know all about the difficulties and delays in Craniotomy without deformity, and I think I have a right to reason from the one point to the other—from the most to the least favorable—and to give expression to that conviction which would guide me were I called on to-morrow to act. I firmly believe that a vigorous woman, not yet deteriorated by futile labor, will stand a better chance after Cæsarean section than after Craniotomy, if the conjugate diameter be reduced to two and three-eighths inches—to say nothing of the chances of the life of the child being saved by the former operation. And if we are called upon to decide such a point after the vigor of the woman has been materially depressed by protracted labor, I should unhesitatingly pronounce in favor of Cæsarean section. To subject this class of patients to the additional evils of necessarily protracted efforts for delivery is, I believe, the most effectual means we can adopt to deprive them of the limited chances left them. And right here is, perhaps, the best point at which to call your attention to the statistics of Craniotomy, as derived from the books.

According to some statistics elaborated by Tyler Smith, and considered reliable, Craniotomy has heretofore been resorted to once in every 342 cases in England, once in every 563¾ cases in France, and once in 1,409½ cases in Germany.

In 371 cases in which the result to the mother is stated, we find the proportion of deaths one in 5·9 of all the cases. He also goes on to say that in England, the proportion of deaths in forceps cases is one in 20¾ mothers, and in France and Germany one in 14¾; hence he draws

Digitized by Google

the deduction, that Craniotomy is a more formidable operation for mothers than delivery by the forceps. And yet, "Craniotomy is comparatively an easy operation." Indeed, all our books convey the idea to the student, that Craniotomy is an "easy operation." Now, I beg, gentlemen, to urge on you my conviction, that, for all purposes of establishing a principle on which to base the relative merits of Craniotomy and forceps delivery, or for fixing the indications for resort to one or the other operation, these data are utterly without value. The cases are stripped of the most important data to be sought by the obstetrician—as age, temperament, condition of general health, condition of life, number of pregnancy, the special indications for the given operation, the duration of the labor, etc., etc.—and the naked results mean to the scientific observer nothing. Just entering on the threshold of a practical career, of course you cannot be expected to look as clearly through the mist that surrounds things as I am sure I do; but I feel assured that you will, if you are observant, reach my conclusions ere long.

I assert here, that I know of nothing in the use of the forceps, or the Craniotomy instruments, to produce the death of the woman. I can see in delayed labor everything to bring about such result. In all my personal observation, I have known but one woman to die after either operation, and that was a case where I came in at the last moment, as it were, the patient being almost worn out by convulsions, and when I deemed it incumbent on me to deliver by Craniotomy, and give her the only chance I could see for reaction—the child being at the same time dead.

The truth is, the clear light of conservatism is just dawning on the mass of obstetricians—even the most eminent of them. The statistics of the past are devoid of value, because obstetric operations have only been resorted to, as a rule, as a sort of forlorn hope; when exhausted nature has extorted from the obstetrician a most unwilling exercise of his intellect and his hands. It is to the present and the future we must look for data which shall fix the specific and the relative merits of the remedial measures at our disposal. Now, I do not mean to say, that if you are called in to a case of already protracted labor, that the further delay necessarily involved in the performance of Craniotomy, as well as the pain of impingement against tissues, cannot act prejudicially; but I say, that all this is not the result of Craniotomy, unless you are unwisely attempting delivery through a channel too narrow to warrant it; on the contrary, it is only what must occur to the woman if she

Digitized by Google

should perchance deliver herself, not forgetting that if she goes unas*sisted*, and fails to deliver herself, she dies—the great dreaded result of the operation in question. The more I read, and the more I practically observe, the more fully convinced am I that in the past history of obstetrics, as well as in the present, the evils following all obstetrical operations by skillful hands, except such as necessarily involve solution of continuity of maternal structure, are all to be attributed to delay; and when this fact comes to be, as it must, recognized by intelligent men, even Cæsarean section (gastro-hysterotomy) will be largely robbed of its terrors to the obstetrician, and all its benefits will be awarded suffering woman. As I have said in relation to the use of the forceps, I now say in relation to Craniotomy; if we are allowed the privilege of primary attention, it must be that we can see the necessity for Craniotomy before nature is exhausted, and if we are to derive the fullest advantage from the operation, it must be incumbent on us to respond promptly to the necessity indicated. If we are only called when Nature is exhausted, the fault is not with us. If Craniotomy is so dangerous an operation for the woman before she is exhausted, its dangers are greater when exhaustion comes. If it is more dangerous than a protracted labor to do an impossible thing, then strike it from our list of remedial measures.

As to the manner of performing Craniotomy, I shall not have much to say. I have told you that the books characterize it as an "easy operation." I do not find it so. Had I my choice between the two, as I have been called on to perform them, I should prefer, so far as mere manipulation is concerned, to operate with the forceps; and with the aid of chloroform, I should always prefer version to Craniotomy. The mere passage of a perforator into the cranium dees not constitute the sum of the operation. There is a distinct obligation to destroy life thoroughly when we undertake it, and our instrument must reach and break up the cerebellum as well as cerebrum. We must be very careful in passing our perforator, that we impinge primarily against the head. and we must push in such a direction as to insure that we pass directly into the cranial cavity, and not through the scalp only, sliding off to cut the tissues of the woman, as has been done. In perforating the cranium, it is necessary to do more than simply make a hole large enough for the perforator to pass in. We must enlarge this opening to allow the easy introduction of other instruments, as crotchets, blunt hooks, forceps, etc., as well as to allow the free exit of the brain mass, and thus ensure collapse of the head. After we have done this, it

Digitized by Google

nearly always becomes necessary to extract portions of the cranial vault—even whole temporal or parietal bones. If the contraction of the pelvis be at all considerable, I am sure this will be necessary. Then, after we have reduced the head, traction is to be made, and according to the location of the head, whether high or low, the difficulty is greater or less. Then, when you have drawn the collapsed head through the vulva, inasmuch as it is not by any means the largest diameter of the fœtus, you have sometimes delay or difficulty in pulling the shoulders through, especially if the case be one in which delayed labor has resulted in exhaustion of uterine power. All this is plain sailing to the man possessed of a practical knowledge of his business, but I contend there is nothing "easy" in it. I have seen Craniotomy performed on the head lying on the floor of the pelvis, and the operation was speedily and easily performed; but I regard such a case as exceptional. Time is required to go carefully through with all the manipulations I have indicated, and I am sure the mass of forceps cases can be more speedily delivered.

So far as instruments are concerned, I show you a Holmes' Perforator, Meigs' Craniotomy Forceps (straight and crooked), a guarded Blunt Hook, and a guarded Crotchet. Thus far, these are the only instruments I have ever found it necessary or advisable to use. I prefer Holmes' Perforator, because it is sharp at point and double edges, and consequently enters more readily. Then the shoulder at the bottom of the blade enables you to fix the instrument at a given point of introduction into the cranium, and by squeezing the handles together externally, you open the blades and very much enlarge the original opening. Also, turning the blades on their axis, by alternately opening and closing the handles, you cut the cranium to pieces at the point of entrance, make a large opening, and vastly facilitate further manipulation. I have tried several other instruments, and none meet the indications as these do. Having made the opening free, you can now pass this same instrument readily into the cranium, then open the blades by pressing the handles together, and in this open condition, by turning the instrument on its axis, you thoroughly divide the brain mass and membranes, so that it runs out freely.

After thus using the perforator, according to the location of the head, you use Meigs' straight or crooked forceps. These answer a double purpose. With these you can seize, double up, and extract even whole bones of the cranium, thus reducing the bulk, and making collapsion easier, and then you can use them as tractors. You see that they are

Digitized by Google

deeply serrated, and if you will take full hold on scalp and cranial bone together (neither, separately, being reliable), you can make firm and successful traction. As for the crotchet or blunt hook, I have rarely had to use them, the forceps of Meigs being always reliable. When used, however, they are to be fastened on the internal portion of the base of the cranium. The guard should always be used; then if the instrument—especially the crotchet— tears through tissue while you are pulling, the structures of the woman will be safe. How any man can use these instruments unguarded, when they are so much safer and so much more efficient with the guards attached, I cannot understand. Yet it is the exception to find a practitioner with guarded instruments.

Such is, in a few words, Craniotomy. But if the pelvis be much contracted, and the reduction of the fœtal head be determined on, my conviction is that Cephalotripsy is preferable to Craniotomy. This operation consists in breaking down the head by *compression*. When the contraction is not below three inches, I feel sure that a pair of strong and well-shaped pair of Hodge's forceps may, in most cases be relied on, by firmly lashing the handles, to break in the parietal bones and thus effect a cranial diameter small enough to pass through. Thus using these forceps as a violent compressor, and then as a tractor, I believe we may make a more speedy operation than that of Craniotomy as represented, and by reducing by compression as we make traction, we relieve the tissues of the woman in a great measure from impingment. But in diameters much below three inches, I believe it will be far better to resort to an instrument narrower and more solid in the blade, as well as stronger in the handles, the blades at the same time approaching each other more closely. To effect this end, Baudelocque originated a huge instrument called the "Cephalotribe," or "Brise Tête," which seems to be still the favorite instrument of the French. A single glance must convince you that it is not only unnecessarily strong and heavy, but that it must, on account of its weight, be difficult to use. The German instrument of the same kind has the same objectionable features, with the additional one of its being too straight. Hodge has produced a decided improvement on all of this class of instruments in his "Compressor Cranii," but I am sure that even it is heavier than is really requisite. These instruments crush the head to the diameter desired. They can be adapted in the same manner as the ordinary forceps, and thus reduction by crushing becomes a far easier operation than by perforation, with evacuation of brain and bone piece-meal. After we have reduced a head

Digitized by Google

by compression, and effected its passage through the superior strait, if there be much deformity lower down, we can, now that it is readily accessible, remove any portion of the vault of the cranium.

French authority is disposed to lay aside *in toto* perforators, Craniotomy forceps, crotchets, etc., and to substitute altogether the Cephalotribe; in other words, to abandon Craniotomy for Cephalotripsy. I certainly approve of the adoption of the latter operation whenever feasible, but as long as cases occur (whether legitimately or otherwise) where we cannot introduce compressors alongside the head, Craniotomy cannot be abandoned. I have no idea that the parturient women of France invariably fall into scientific hands; consequently indications will arise for what I have termed illegitimate Craniotomy.

Before closing this lecture, I must especially direct your attention to the after treatment of the parturient woman, who has undergone at your hands operative procedure. In treating of the forceps and Craniotomy, I have endeavored to fix on your minds the golden rule of *early action*, action while yet the physiology of the woman is unimpaired, and in forceps cases where yet even the child is not depressed. Unswerving obedience to this great principle is, to my mind, the highest attribute of the real obstetrician. The panderer to the "wonderful resources" of nature is a frail reed for the parturient female to lean upon.

But after you have operated, attend strictly to your patient. Absolute rest, (physical and mental,) and nourishing food are essential—the indication being stronger in proportion to the duration of the labor. Let the room be well ventilated, and exclude all persons save those in real service. The common lying-in room experience of a crowd of curious or "sympathizing" friends and washy *tisanes* is utterly unsatisfactory, and at the same time derogatory to our profession. Rest is indispensable, and nothing short of nourishing food, carefully administered, can supply the waste that has occurred under exertion. The fashionable custom of starving the parturient woman is all wrong. I am sure that it has been a powerful means of sinking the woman into the condition called "puerperal fever."

Pay strict attention to the locality through which you have brought the child. Keep the parts clean and comfortable by frequent injections of warm or tepid water, with the addition sometimes of soda or chloride of lime. Use deodorizers promptly and freely, for the disagreeable odors of the lying-in room are often depressing. Never allow the bladder to be at all taxed. If the woman cannot evacuate it readily, resort

Digitized by Google

to the catheter. In this way much trouble is avoided. Keep the bowels soluble by enemata every other day—avoiding, if possible, the fashionable and inevitable dose of castor oil. Let your patient be freely supplied with clean linen. It is an unspeakable comfort, more especially to those whose circumstances in life have previously permitted the free indulgence of the luxury, and it materially aids in effecting perfect quietude.

Again I say to you, gentlemen, study hard to recognize the dangers and difficulties of the parturient woman. Sift thoroughly the means of relief at your disposal; and then be prompt to act. Pursuing this course, I assert that in your own personal practice you will very rarely find yourselves under the necessity of resorting to the operations we have just considered. But when the necessity comes before you, whether primarily or secondarily in practice, remember that on your skill and promptitude hang all the chances of the unfortunate woman before you. If you are ignorant, let your arm drop from your body before you use it on the parturient woman. If you are conscious of the reverse, then spurn the miserable cant that palsies so many who can be useful, and fill the measure of your mission with all the judgment and energy that God has given you.

ART. XIII.—*Clinical Cases:* By W. S. MITCHELL, M. D., Adjunct Professor of Anatomy, and Lecturer on Diseases of the Eye, New Orleans School of Medicine.

CASE 1.—*Closure of Pupil and Cataract both Eyes.*—Patrick Leonard, aged 32, born in Ireland, admitted into Charity Hospital January 9, 1867.

The patient states that in 1861—during an attack of rheumatism—he first noticed a cloud coming before his eyes, they being at the time much inflamed and very painful. Sight gradually failed from this time.

Upon examination, both eyes presented conjunctivæ natural; irides somewhat discolored; pupils of both eyes very much contracted, the right entirely, and the left almost occluded by deposit of lymph; the anterior chambers much smaller than natural, indeed, it is only by close scrutiny that their existence can be at all recognized; no pain; right eye of natural consistence, left very soft to touch; right totally blind,

Digitized by Google

vision only in the left sufficient to distinguish very large objects, and they only to the extent of recognizing their outlines when very near.

Jan. 16th.—Operation of iridectomy was to-day performed upon the temporal side of the right eye. Ice applications; sol. 1 gr. of atropia to ʒi of distilled water, and 3 comp. carth. pills were ordered, the eye having been properly bandaged.

Jan. 18th.—Bandages removed; no inflammation has followed the operation; the presence of an opaque lens is recognized; however, the pupil made by the operation is situated by more than one-half of its diameter beyond the outer margin of the lens, thus enabling the patient to recognize objects without much difficulty.

Jan. 26th.—Vision in the eye has gradually improved, so that now, by the aid of double convex glasses, the patient can read ordinary type.

Feb. 2d.—Operation of excision of iris performed on temporal side of left eye; the usual precautions taken to prevent undue inflammation. The operation was followed by no inflammation, but upon the removal of the bandages, on the second day, vision was found unrestored, on account of an opaque lens and a very extensive deposit of lymph between it and the iris, occupying almost the entire posterior chamber. Ext. of belladonnæ ordered to be applied to both eyes.

Feb. 15th.—Attempted to depress the lymph and lens by means of a needle through the cornea, but failed, the adhesions being too strong to yield to any ordinary force exerted upon them. No inflammation followed.

Feb. 20th.—Divided the adhesions by means of a narrow knife through a flap made at the corneo-scleroteal margin, and on the temporal side, a curved needle was then introduced, and both the lens and lymph were pushed aside. In this operation the vitreous humor which had already been diagnosed as softened, escaped to the extent of at least one-half, as was supposed from the amount of collapse which followed. The eye was carefully bandaged, ice applications, and solution of atropia ordered, the patient being put to bed.

Feb. 23d.—The operation has been attended with some little inflammation of the iris; globe has resumed its natural size. A deposit of blood in the anterior chamber prevents the result of the operation being clearly established; however, the patient thinks he can recognize the hand when passed before the eye.

March 10th.—The deposit of blood in the anterior chamber of the left eye has been absorbed, but vision has been but little benefitted, as

Digitized by Google

the opaque lens has returned to its former position and now again fills up the artificial pupil made on the 2d of February. The lymph deposits have disappeared, but vision consists only in a perception of light. At the time of the operation of iridectomy, the lens was supposed to have been in a hardened state, but now the disappearance of the lymph enables its peculiar granular condition to be recognized, and the fact of its softened character to be diagnosed.

March 12th.—An incision having been made as near as possible to the old cicatrix, in the cornea, near its sclerotic margin, on temporal side, with a bent keratome, the capsule was first ruptured by the cystatome, and most if not all of the lens removed by means of the curette. Eye bandaged; ice applications, and solution of atropia. The collapsed condition of the globe followed, as was noticed in first operation, but with this exception, that if anything it was more marked than before.

As the artificial pupil of the right eye has somewhat contracted, an effort was now made through the cornea with a fine needle to push aside the lens.

The usual precautions taken—viz: ice applications, etc.

March 19th.—Neither operation has been followed by inflammation. Vision in the right eye exists to the extent of reading ordinary type with the aid of convex glasses. In the left eye it is still very imperfect, but patient thinks it is daily improving.

Case II.—*Chronic Irido Choroiditis, probably inherited, Syphilitic.*—Thomas Pratt, aged 17, a native of Louisiana, entered Charity Hospital, December 7th, 1866, with both eyes affected, and have been so for nine months; general health has been good, with the exception now and then of a slight cough. Present examination elicits following condition, in both eyes: globe prominent and tense, with a very unnatural hardened feel to the touch; circular shape of the cornea destroyed, and its horizontal diameter decreased at least one-third (a condition probably due to intra ocular pressure). Sclerotica attenuated to such an extent as to expose the peculiar blue tint of the choroid, and also very much injected; both irides discolored; pupils contracted, irregular, and respond sluggishly to action of light. From the peculiar shape of his incisor teeth there is a suspicion of hereditary syphilitic taint. But little pain; considerable lachrymation; vision amounts to a bare perception of light.

Digitized by Google

Dec. 7th.—℞—Ant. et potas. tart. gr. j.
Ext. gentian q. s. M. fiat pil No. xij.
S.—Take one every three hours.
℞—Emplas. canthar, 2 x 1, No. ij.
S.—One to each temple.

Jan. 1st.—General appearance of the eyes but little improved; patient thinks he sees a little better. Medicines which were prescribed on 7th ult., and which had been continued to this date, now discontinued and the following ordered.

℞—Potass iodid 3ij.
Tinct gentian co ℥vi. M.
S.—Take table-spoonful three times daily.

Feb. 1st.—Considerable improvement, both in vision and in the appearance of the left eye; right remains in appearance as it was on entry, but patient complains now of intense pain in it, both orbital and circum-orbital; up to this time patient had persistently refused to permit any operation to be performed upon the eye, and it is more than probable that the time when iridectomia might have been performed with a prospect both of relief of pain and restoration of vision has passed, and the most that can be expected of it now is relief of the pain which has finally persuaded the patient to submit to the operation.

The operation was performed in the usual way, with the excision on the temporal side, the eye bandaged and ice applications, and 1 gr. sol. of atropia ordered.

Operation was attended by very little inflammatory action, and on the 28th February, at which time the patient left the hospital, improvement in every respect had been rapid.

Case III.—*Central Albugo, both Eyes with Anterior Senechia.*—J. Ferguson, aged 30, entered the Charity Hospital, November 2d, 1866; states that about two years previous he had had a severe inflammation of the eyes, which in three weeks terminated in loss of sight in both. The inflammation, judging from its results, was of a purulent character. All the tissues of the eye now presented a healthy and normal appearance, save the cornea and iris. Both eyes were in much the same condition, so that it is only necessary to describe the right, the one upon which it was determined to operate it was thought best not to interfere with the left, since were an artificial pupil to be made in it as well as the other, the patient would be troubled with double vision on account of want of power to coadapt the axes of the eyes.

Digitized by Google

In the right eye a central albugo was situated upon the cornea, occupying a circle of a line in diameter and immediately over the position of the normal pupil; the pupillary margin of the iris was attached to and incorporated with the cicatricial tissue forming the albugo. Patient perfectly blind, save a mere perception of light.

Nov. 4th.—Iridectomy performed, after the manner of Grafé, on the temporal side, the eye bandaged, the patient put to bed, and ice applications and sol. of atropia ordered.

Nov. 6th.—Bandages removed. No inflammatory symptoms have supervened.

Nov. 15th.—Patient discharged, with vision in right eye perfectly restored.

CASE IV.—*Atrophy Left Eye, Staphyloma and Leucoma Right.*—John Sherry, aged 30, born in Ireland, was admitted to Charity Hospital eye wards on the 9th December, 1866. But little can be elicited from the statements of the patient, save that in all probability about twelve months ago he had gonorrhœal ophthalmia. Upon present examination the following conditions present themselves: Cornea of left eye displaced by cicatricial tissue; globe atrophied, and vision entirely lost. Right eye—cornea staphylomatous and opaque in its lower two-thirds, and nebulous to such an extent at its upper portion as to prevent the condition of the iris from being recognized; lids slightly granular, ocular conjunctiva somewhat injected; no pain; vision scarcely amounts to a perception of light.

℞.—Calomel gr. x,
Pulv. Opii gr. v,
Confec. Rosæ q. s. M. fiat pil no. x.

S. One every two hours.

Dec. 19th.—Calomel was suspended, and in its place the following:

℞.—Hydrarg bi. chlor. grs. i,
Tinct. Gentian Co. ℥vi. M.

S. Take tablespoonful three times a day; with this, cod liver oil and a generous diet were advised.

From time of entry, in connection with this treatment, lids have been touched daily with a saturated solution of sulphate of copper. This method of treatment was adopted in order to overcome the granular condition of lids, as well as the nebulous condition of the upper portion of the cornea, with a view to performing iridectomy.

Jan. 1st.—The nebulous condition of the upper portion of cornea

Digitized by Google

having in a great measure disappeared, iridectomy was performed, with the intention of placing the artificial pupil as near the uppermost ciliary border as possible, a clear transparent spot of cornea presenting itself at this point, about a line in width, and of a crescentic shape; the incision was therefore made above; eye was bandaged—ice applications and sol. atropia ordered.

Jan. 3d.—Bandages removed; no inflammation has followed; the artificial pupil can be easily recognized through the cornea, which is still slightly nebulous. Treatment ordered on the 19th December continued.

Jan. 15th.—Vision of patient has gradually improved; he is now enabled to move from place to place unaided, and can distinguish large objects with ease. The great difficulty to perfectly restoring vision in this case, exists in the inability of the patient to depress the eye sufficiently to rid the new pupil of the over-lapping of the upper lid.

March 20th.—Patient has still continued to improve; is now able to read ordinary type with convex glasses.

The above cases of operations upon the iris, which have been very kindly gathered together by the ward student, Mr. W. H. Watkins, are offered to the profession simply as what they are styled, *clinical cases*. Of course, by themselves they establish little beyond the fact that iridectomy, no matter what its claims as a successful surgical procedure may be, is certainly attended by few, if any, unpleasant consequences, and that recovery is rapid from its effects. The only apology I can offer, if apology be necessary, for thus presenting them, is that the vast progress made in opthalmology during the past ten years has been so poorly kept pace with by the standard medical literature, that, as a general rule, the operation of iridectomy has not as yet taken, among the profession in this country, the high position it so richly deserves. It may not be remiss, therefore, in this connection, to pass in rapid review its origin, its progress, and its present position as a remedial agent, which, together with the ophthalmoscope has done so much in elevating this collateral branch of medicine from an *art* in the hands of the few to a science within the reach of every surgeon: to those few we can but feel thankful, as we pause to consider this very progress as a convincing argument, a proof, I might say, of the necessity of sub-division of labor in the extended field of medicine; for to specialists are due all those great improvements and discoveries in ophthalmic medicine and surgery which but yesterday their especial property, pass to-day into the hands of general medicine, to be engrafted

Digitized by Google

upon her *trunk* as one of her most flourishing branches, reprehend, them as we may, in "*their contracted field*" their mission has been fulfilled, and their mite has been handed in to increase the general store. I believe that it is as equally true with ophthalmology, as it is with the other collateral branches, that the nearer perfection they are brought by progression, the more intimately they become connected with the mother science, and the more necessary they are to the student of general medicine. In properly appreciating the intimate connection with general medicine of that portion of ophthalmic medicine which, a few years ago, engaged alone the attention of specialists, America is behind the age. The medical Press of England has already foreshadowed a change in public opinion, by boldly declaring that any surgeon who neglected to perform iridectomy, in the presence of certain indications for its performance, would lay himself liable for malpraxis.

Commencing as early as 1728, we find two cases of closure of the pupil after extraction of cataract reported by Cheselden, in which excision of the iris was successfully performed; in a short time the same operation, with various modifications, but all having the same object in view—the establishment of an artificial opening for the transmission of light to the interior of the eye—became applied to opacities of the cornea; from that time to 1857, the operation remained confined to this contracted field, occulistic surgeons contenting themselves by modifying and remodifying the original operation of Cheselden. It was reserved for Von Grafe, in 1857, to open for the operation a field of usefulness far exceeding that of any other surgical procedure in ophthalmology.

Space is not permitted me to enter fully into a description of its many values; I can only enumerate, in addition to its employment for the restoration of vision in those cases when, either from disease or accident, the normal aperture for the transmission of light has been obliterated, irido-choroiditis, acute glaucoma, sloughing ulcer of the cornea from injury, traumatic suppurative iritis, certain cases of conicity of cornea, and lastly, ischæmia retinæ.

Before closing, I would call attention to the operations upon the left eye of case 1, where, even with the escape of the vitreous humor and collapse of the eye on two occasions, the globe quickly regained its size; nor was the escape of fluid attended by that destruction to vision which writers upon the subject would lead us to believe inevitable—a conclusion which I am, from my own experience, much inclined to

Digitized by Google

doubt; indeed, I am almost willing to advance the contrary, to this extent, that the escape of a large portion of the vitreous humor is even beneficial in a certain proportion of cases. The accident, if it can be so styled, has happened to my cases three times during the past two months. In one case of calcareous lens, of long standing, the vitreous humor was perfectly disorganized, and in the effort to release the lens from its attachment and extract it, almost all—I am not certain if all—of it escaped, and the eye completely collapsed. Yet, on the second day after, the eye had regained its natural size, and a few days since, upon examination, presented no abnormal appearances save those usually following extraction of cataract. In this case, it is impossible to say what influence it may have exerted in disturbing vision, since not even a perception of light existed at the time of the operation, which was undertaken solely to relieve pain; in the other cases, I am satisfied that no injury to vision followed this loss. In advancing this opinion upon the subject, I feel it due to Dr. C. Beard to acknowledge that my attention was first called to it by him, and that whatever of originality it possesses should be placed to his credit, not mine.

ART. XIV.—*Ovarian Tumor, Containing Remains of a Fœtus:* Removal of, by GEO. W. KYSER, M.D., Ala.

ON the 4th of April, 1866, Mrs. S—— came to my office, and requested me to prescribe for a servant suffering with an "enlargement of the liver." I replied it was impossible for me to do so with any degree of precision without examining the patient, and requested her to send Amy, the servant, to my office.

On the morning of the 5th, Amy, a negress, came for an examination, and, at a casual glance, one would have supposed her six months pregnant; but, upon examination, I found her suffering with an abdominal tumor. The only account she could give of it was that about five years previous she was taken with twisting pains in the abdomen, followed by fever, and that after this she first noticed the tumor in her right flank. Owing to her extreme modesty, I was unable to make as minute an examination as I desired, but was satisfied medicine could not relieve her, and hence sent her home without the desired medicine.

In a few days I saw Mrs. S——, and made known my views of the

Digitized by Google

case. She was more hopeful, and insisted on my trying the "virtues of medicine, for a short time at least." I yielded to her solicitations, and gave Amy, ℞—Protid. hydrg. in 1 gr. doses, three times per day, until partial ptyalism was produced. At same time used iodine ointment over the abdomen twice daily. But, as anticipated, with no benefit to the patient.

She had been blistered and treated generally for an "enlargement of the liver," by other physicians.

I discontinued the above treatment immediately, I saw her gums were touched, and several days after I began with the iodide of iron, and continued the iodine ointment. For several weeks she continued this treatment, and imagined a great improvement, but from my measurements, I saw the tumor was gradually enlarging. Nevertheless, I encouraged her, and continued the treatment, as Mrs. S—— desired.

Repeatedly she came to my office for examination and measurement, until necessity and duty forced me to be candid with my prognosis. The tumor had increased very rapidly, and now was seriously interfering with her daily avocations. Heretofore she suffered most just before and during her catamenial periods; now, she was very nearly all the while complaining, and a burden, not only to herself, but also to her very kind owners (formerly).

I was firmly convinced, from its rapid increase and serious pressure upon neighboring organs, that life was in great jeopardy; hence, was compelled to be frank and candid with her. Under this conviction, I informed her nothing short of an operation would, in my opinion, relieve her. At the same time, stated the great risk of life attending the performance, and the slight chances of recovery. Her good constitution and general health all urged the obligation of making an attempt to save her from the fast approaching results.

After a few weeks reflection and consultation with her former owners she returned to my office, beseeching me to operate. Not being prepared for it at the time, I deferred it for several weeks, during which time she repeatedly returned, entreating me to relieve her by the operation. As she expressed it, "I would rather die than live in my present situation."

About this time I was called to New Orleans, and while there, I consulted my able preceptor, Dr. Frank Hawthorne, about this case, and he advised me to use the clamp, with a view of retaining the peduncle in the cicatrice, provided I operated with a view of extirpation. Which suggestion, it will be seen, I approved and practiced to great advantage.

Digitized by Google

At this time I was undecided whether I would use the trocar and canula, or extirpate. But upon my return I secured two very able assistants, and on the 4th of February, 1867, determined to operate. At 12 o'clock M. we anasthetized her, flexed her thighs upon the abdomen, and after a minute examination, found a very floating ovarian tumor, with a very small attachment. To have punctured it would have been but temporary relief; moreover, it was most too movable for it to have had much of an attachment, hence I determined to extirpate it.

I commenced my incision near the cartilage of the tenth rib, about two inches from the linea alba, extending it very nearly parallel with same line to the pubis. My object in this was to bring the incision over the region of the right ovary, and thus cause the right fallopian tube to deviate as little as possible from its normal position. I first divided the integument, then the muscles down to the transverse fascia, taking particular care not to puncture the fascia. After this was done I checked the hæmorrhage by litigating one branch of the epigastric artery and applying cold water and torsion to the remaining—all too small to require litigating. This having been accomplished, I punctured the transverse fascia, and with a probe-pointed bistoury extended the incision to the points above mentioned, and then examined the tumor, with its attachments, etc. My diagnosis was verified. I endeavored to remove it, but finding my present incision too small to admit of its removal, I enlarged it with a probe-pointed bistoury to near the ensiform cartilage. I did not measure the length of the incision, but presume it was between ten and twelve inches.

I then removed the tumor, and, Dr. Alison supporting it, I litigated the left fallopian tube, near the uterus, and clamped the right fallopian tube, the peduncle of the tumor; removed all crassamenta from the abdomen, and brought the edges of the wound into apposition by interrupted sutures of silver wire; dressed the wound with cold water; applied bandages around abdomen, and left her to react from the chloroform. Her pulse was very good at this time.

The left fallopian tube had become adherent at its fimbriated extremity to the tumor, and it would have been almost impossible to have dissected it from the tumor in order to have been of any service to her in the future. Hence I decided to ligate it near the uterus.

Three hours subsequent to the operation I visited her and found reaction almost entire. She was much nauseated, great retching, with inability to vomit; pulse very good. I placed her upon the right side, with directions to remain in this position, with knees flexed upon the abdomen; cold water dressings and sulph. morphia, when very restless,

Digitized by Google

constituted the treatment for the next twelve hours, at which time I again visited her.

Feb. 5th, morning—Did not rest well the first of last night, but slept very well the remainder of night up to my arrival. Pulse 78; skin cool and pleasant, mind bright and clear, not in any pain, but great soreness around the wound; discharge free but not copious; continued treatment, with addition of adhesive strips to support the wound.

Feb. 5th, evening—Pulse 80, skin moist and pleasant, wound looking well and is itching; drank cup of coffee, ate nothing since operation.

6th, morning—Rested well during night; condition about same as on last evening; ate some gruel for breakfast; no discharge from wound, it is itching very much. Continued treatment.

Evening of 6th—Pulse 90, skin warm and dry, tongue furred, great soreness about wound, but no pain.

Morning of 7th—Rested tolerably well last night. Pulse 105, skin hot and dry, tenderness on pressure, edges of wound somewhat tumified; no discharge of any consequence from wound. Continued treatment.

Evening of 7th—Condition about same as this morning; tongue much furred. Gave her ℞ pil. hydrarg. gr. xij, ft. pil. ij, to be taken at once, with sulph. mag. at 4 o'clock in the morning.

Feb. 8th, morning—Did not rest well last night; found her asleep this morning. Pulse 78 (natural), skin cool and pleasant; tongue much furred, assuming the appearance of a regular bilious fever tongue; wound seems to be doing well; appetite good and wishes gruel and milk.

Evening, 8th—Pulse 88, full and forcible, skin warm, no pain or soreness about wound; asks for milk and gruel. Continued treatment, with cold water dressings, etc. Her catamenia made its appearance last night—her regular time—and continued three days as usual and ceased.

Morning, 9th—Rested badly last night; condition about same as on last evening. Continued treatment.

Evening, 9th—Pulse 95; skin hot and dry; wound seems to be doing well, has united near the sternum and promises to heal rapidly. Ordered an enema to move her bowels; they were moved twice.

Morning, 10th—Rested well last night; had a chill at 8 o'clock, A. M.; saw her at 9 o'clock, found her fever rising, tongue much furred, conjunctiva somewhat jaundiced; wound seems to be doing remarkably well; gave her ℞ hydrg. chlorid mit. gr. x, pulv. doveri gr. xv, M. et divid. in chart. no. v, S., one every two hours. Discontinued the cold-water dressing and used cerat. simplex. At 1 o'clock, P. M., Dr. J. L. Alison

Digitized by Google

visited her with me and found her pulse 110, skin moist, tongue same. Removed the clamp and added two sutures, having taken away some of the first used.

8 o'clock, P. M.—Found her pulse same, perspiration profuse, great thirst and disposition to jactitation. Ordered morph. sulph and an oz. olei ricini at 1 o'clock, A. M.

Feb. 11th, morning—Pulse 105, skin moist, thirst not so great, resting very well, bowels not moved by oil, ordered an enema to move them. ℞ potass. chlorat. 3i, aqua ℥vi. M. ft. solut. S., use as a gargle three or four times daily. Was suffering with tonsilitis.

Five o'clock, P. M.—Pulse 95, skin moist, general appearance better; begs for gruel and milk; moved her bowels twice by enema this morning; wound is healing rapidly.

Feb. 12th, morning—Rested well last night; pulse 87, skin cool and pleasant, no soreness or tenderness on pressure, is cheerful and lively, begs for something to eat. Evening—About same as this morning; wound continued to improve.

Feb. 13th, morning—Pulse 82, skin cool and pleasant, bowels opened, wound doing well; gave her soft boiled eggs, toast, etc.

Feb. 14th, noon.—Rested well last night; removed the ligature from left fallopian tube; also several of the sutures; wound very nearly well, that is, union almost entire.

Feb. 15th.—Removed the remaining sutures, and renewed the adhesive strips and bandage. She continued to improve very rapidly. No change worthy of note up to 25th of March.

On the 3d of March she was permitted to leave her bed, and eat anything she desired.

On the 18th she felt well, and went regularly to work, contrary to the orders of her employers.

On the 28th of March I saw her and found the peduncle of the tumor protruding, to a small extent, through the wound. I endeavored to destroy it with caustic, but to no purpose. I then removed it with the knife, and brought the edges into apposition with silver sutures.

On the 30th I again saw her, and she was suffering with metritis, which soon passed away, with the appearance of her catamenia, which lasted three days, as usual, and disappeared.

I observed no abnormal condition of any of the internal organs. The liver was of its normal size and appearance. The right fallopian tube was much enlarged, very nearly 1½ inches in diameter—the left was of

Digitized by Google

its natural size, but its fimbricated extremity was adherent to the tumor, caused, I presume, by the constant pressure upon it.

The clamp used in this case was composed of two well polished pieces of very hard wood, with a groove in their middle, and fastened together by gimlet screws with their heads flattened. The object of the groove was to admit more of the peduncle, and thus retain it *in situ*. A very simple affair, but it answered every purpose.

When it was applied I severed the peduncle, and the pressure was so great not a drachm of blood was lost. To this instrument I ascribe much of the success in this case, for the discharge from the compressed fallopian tube was sufficient to have excited peritonitis and all its serious consequences.

Upon examination of the tumor I found it measured (22) twenty-two inches in circumference, and contained a dark, chocolate colored fluid, with the remains of a fœtus, such as bone, hair, fibro-cartilage, and a fatty substance, which floated about in the supernatent fluid, which had gravitated to its most dependent portion, and become enveloped in a thick fibrous mass. I presume it must have lived to the fourth or fifth month of gestation. Some portions of the bone were very hard—others semi-ossified, etc.

It was impossible for me to obtain any one bone fully formed. The mass was from an inch to three inches thick, and very convoluted. Hair was in abundance and pretty generally disseminated through the mass. The cyst was very tough and inelastic, varying from two to eight lines in thickness; at one point the waters had very nearly perforated it—in fact, had rendered it transparent, and, in my opinion, would have, ere five months elapsed, pierced it and emptied its contents into the abdomen. After the fluid was evacuated the cyst and mass weighed 1½ pounds avordupois.

The catamenia have appeared regularly, lasting her usual term, three days.

I regret, now, that I did not remove the left ovary, from which I apprehend trouble hereafter. The patient is now in the enjoyment of excellent health, and able to attend to all her usual avocations.

Digitized by Google

FOREIGN CORRESPONDENCE.

EDINBURGH, March 21st, 1867.

No small stir has been caused in the Edinburgh medical world this winter, by the advocates of the bromide of potassium. Its two great supporters are Drs. Bigbie, senior and junior—two of the leading physicians in this city. In a paper published by Dr. Bigbie, Sr., on the many uses of this salt, he enumerates no less than ten diseases in which he had found it of great service. The physiological action of this salt as a "valuable calmative and hypnotic" is well known to us all. Starting from this, as an established fact, he argues that:

1st. In nervous headaches and palpitations.

2d. Nervous disorders the result of excesses.

3d. Epilepsy of eccentric origin.

4th. Acute mania, delirium tremens, puerperal mania, melancholia.

5th. Whooping cough, laryngismus strydulus, spasmodic croup, spasmodic asthma, dependent on cerebral lesion or initiation.

6th. Vomiting and secondary affections of the ganglionic system of nerves.

7th. Diabetes.

8th. Cholera.

9th. Nervous element in fever and quotidian ague—and,

10th. Neuralgia—its use is directly indicated, and has by him been found to be of the greatest benefit.

He gives histories of cases treated successfully by him to prove the truth of his views.

He places special reliance on its use in cholera, and, as he had charge of the cholera hospital last winter, he had a good opportunity of testing its worth. I will here quote his own words on the matter: "Though not possessing the properties of an antidote to the poison of cholera, though not a specific to the shock of this terrible disease, it has certainly stript it of some of its terrors. No one, I believe, who has given himself the op-

Digitized by Google

portunity of watching the effect of the remedy in the earlier stage of collapse, can have failed to observe the remarkable remission of vomiting and the arrest of cramp, which follow the exhibition of five or six doses of twenty or thirty grains, at the interval of an hour or half an hour, and the speedy return of warmth and color to the previously cold and livid surface. To these indications of reaction there follows the cessation of the rice water dejections and the secretion and voiding of urine—here, it may be said, its efficacy terminates, * * * * * and now there opens to the observing physician a second stage, and an opportunity of suggesting remedies more suited to the new phenomena which succeed, as its use is contra-indicated as soon as reaction has set in."

So much for his own testimony. It is now largely used throughout the hospital—especially in cases of epilepsy.

It certainly does do good to many—but is useless in other cases; the fault in these may be in the diagnosis.

I have seen it used in the fever wards, with the most marked benefit, a good dose or two seldom failing to quell a noisy, delirious patient. It is also used in the delirium tremens ward with success. After surgical operations of a painful character, its use in affording sleep and rest, and at the same time not interfering with the stomach, is found very advantageous. It is a great favorite with students, who take it for neuralgia, nervous headache, or sleeplessness.

There is now in ward 15 (medical) a woman, who, on admission, was suffering from aggravated chorea, which prevented her even standing. The salt was in 3ss doses—and now, after six weeks, the same woman is a useful inmate of the ward, being troubled with but an occasional slight tremulousness of the arms and head. But the salt is only on its trial, and there are some who deny its efficacy altogether.

Before closing, I would like to mention that Sir J. Y. Simpson's method of securing arteries, by "acupressure," is now THE practice of the surgeons here. It is also the established practice at St. Andrew's, and this week I hear that Dr. Pagit, of London, has intimated to Sir J. Y. Simpson his intention of giving it a fair trial, and I feel quite certain that he, too, will add his testimony to the great efficacy of the "needle."

I remain, yours to command,

EDWARD TALCOTT NORMAN

Digitized by Google

TRANSLATIONS FROM FOREIGN JOURNALS.

Summary Prepared from Foreign Journals, for the Southern Journal of the Medical Sciences: By J. J. CASTELLANOS, M. D., New Orleans.

Tannin in Conjunctivitis:

IN the acute period of conjunctivitis, Mr. Sheaton prefers the tannin collyrium in the proportion of one or two drachms to one ounce of distilled water to all the mineral astringents, such as the salts of silver, zinc, copper, lead, etc. The instillation of a few drops of this collyrium into the eye will excite an increased flow of tears, but is not attended with the pain and smarting sensation brought on by mineral astringents. The repeated use of the tannin collyrium will in acute cases alone bring on a contraction of the engorged capillary vessels, but cannot supersede the mineral salts in cases of chronic inflammation.—*Review of Med. Chir. Therap, August*, 1866.

Gout and its Concomitant Affections:

1. *Gout and Gravel.*—Gout is necessarily attended by the uric acid diathesis, and it is not surprising, therefore, that gravel, which is a manifestation of this diathesis, should be quite often met with in gouty subjects. The relationship which connects these two diseases has been acknowledged at all times. Erasmus wrote to Thomas Morris: "Thou hast the gravel, and I have the gout; we have wedded sisters." Sydenham, Morgazine, Murray, have signalized this, to us, incontestible affinity.

But there exists, at the same time, a certain antagonism between these two affections. They are seldom simultaneously found, but tend to succeed one another alternately. A fit of gout is thus often seen to disappear, and gravel is then ushered in. Besides, when gout and gravel co-exist, we must not, as is generally the case, suppose that the phenomena are of simultaneous origin, for very often the gravel has taken some time to accumulate itself in the kidneys before being expelled and giving rise to nephritic colic. It is a noteworthy fact that the chemical composition of urinary concretions is not always uniform in gouty subjects. We occasionally find uric acid, but they can also contain urate of ammonia, and are sometimes composed of oxalate of lime. Besides, oxalic is very much akin to uric acid gravel, as we know, in fact, that uric acid can be considered as composed of urea allantoin and oxalic acid. These variations may also alternate with one another, in the nature of urinary deposits. In gouty patients, afflicted with stone in the bladder, Mr. Gallois has ascertained that the calculi were occasionally formed of alternate concentric layers of uric acid and oxalates, thereby proving the successive changes in the composition of the products of renal excretion. Finally, these two acids can be found

Digitized by Google

in the blood, sweat and urine of gouty patients at times when the gravel does not appear, which is an additional proof of the connection existing between these several morbid manifestations.

However, we must here remark, that the formation of sediments of amorphous urates or crystals of uric acid in the urine, a short while after its emission, would not prove that their excretion is absolutely increased. Some diminution of the watery portion of the urine, its well marked acid reaction, will have a tendency to bring on a precipitation of these sediments without inducing a real increase in the proportions of uric acid. On the other side, thanks to Bortels, we are at present aware that urine may retain its limpid color long after it has been voided, and still contain a large proportion of uric acid. In order to ascertain its real condition, it is indispensable to analyze all the amount of urine voided in the twenty-four hours, and even repeat these experiments during five or six successive days; for it has been demonstrated that the excretion of uric acid varies remarkably in amount, not only during the day, but from one day to the other. One would be led to admit that uric acid should exist in excess in the blood when its sediments are formed in the urine previous to its emission, and, *"a fortiori"* when gravel exists. But this may occur from causes entirely independent from uric acid diathesis—a simple local inflammation may determine it. (Brodie, Royer.) I have been enabled more than once to ascertain the absence of uric acid from the serum of the blood, in subjects not affected with gout, but who would habitually void voluminous uric concretions. This must not, however, overthrow absolutely the theory of connections of gout with gravel. It has been, on the contrary, demonstrated that, in certain subjects, gravel can be ascribed to uric acid in excess in the urine. Dr. Ball has forwarded to me his observation on a case of a man aged sixty-four years, who, after nephritic colic, would void small uric acid calculi. In this case, a certain amount of uric acid was found in the serous discharge of a blister that had been applied upon the epigastric region. This patient had always been free from gout or albuminuria. Three categories can be established with regard to the connection of gravel with gout. It may precede gout, which is frequently the case. It may follow it: this very seldom occurs. Finally, it may attend it: this is a still more exceptional case. The gravel symptoms may blend those proceeding from the gout. There may be voiding of sand, together with temporary albuminuria, or there may exist renal gravel, which Mr. Royer denominates gouty nephritis. But we know of the existence of another form of gouty nephritis, that which is characterized by deposits of water of soda in the parenchyma of the kidney (the gouty kidney of English authors). Finally, there may co-exist with gout, ischuria pyelitis, nephritic colic and irratibility of the bladder. These accidents may coincide with, but they are not necessary consequences of, gravel, and may, even, simulate it.

2. Does there really exist any connection between gout, scrofula and phthisis? We are little disposed to affirm it, positively, but true it is, that scrofula is oftentimes met with in rheumatic subjects. Prout, who has carefully examined this point, admits that scrofula is often associated with gout, and that children of gouty parents are predisposed to phthisis. This latter affection, so uncommon in acute articular rheumatism (Wanderlich, Hamerujk) is frequently found in cases of chronic articular

Digitized by Google

rheumatism. In gouty cases, on the contrary, it is seldom found, though diabetes, which is intimately connected with gout, would seem to favor the invasion of phthisis.

3. What relation does the gouty diathesis bear to cancerous affections? Doctor Cazalis my former master and predecessor at the Salpetrière believes in the existence of an intimate relation between these two diathesis. Royer has ascertained their presence, if not in the same individual, at least in the same family. Besides, a case published several years ago, in an English paper, proves that these two affections may be met with in the same individual. The case was one of cancer of the penis with cancerous deposits in the lungs and liver in a gouty subject, of sixty-eight years of age, who exhibited voluminous tophus and gouty nephrites with urate of soda concretions in the kidneys.—*Gazette des Hôpitaux.*

CHRONICLE OF MEDICAL SCIENCE.

ANATOMY AND PHYSIOLOGY.

Remarks upon the Anatomy and Physiology of the Ciliary Muscle in Man: By B. Joy Jeffries, M. D. Read before the American Ophthalmological Society, June, 1866.

At the meeting, last year, of the Society, I made some remarks on the anatomy and physiology of the ciliary muscle in man, and as recent investigations have seemed to confirm them, I shall take the liberty of presenting these in support of my views.

I said that I followed others in considering that the ciliary muscle in man, by contracting upon its origin, slackened up the suspensory ligament, and thus allowed the lens to become more convex—thereby accommodating the refractive media of the eye to divergent rays of light from near objects, and focussing them on the retina.

In putting together the anatomical accounts of this muscle, I could not make out that the muscular fibres known as Müller's circular fibres were a distinct mass, together enabled to act as a separate part of the whole muscle. In this I am now further confirmed by Mr. George Meyer's (medical student in Bremen) essay on the comparative structure of the annulus ciliaris in man and mammals, to which a prize was awarded by the faculty of Heidelberg, and published in R. Virchow's Archiv, November, 1865.

Meyer states that "the *annulis ciliarus* in *man* is attached by a very thick fibrous net to the posterior and inner wall of Schlemm's canal, and over a short space of the adjacent sclerotic. The fibre bundles run in various directions from Schlemm's canal, some as a meridional layer,

Digitized by Google

directly backwards, lying close against each other to their insertion in the choroid, and others in a curve from outwards inwards (concavity towards centre of eye). These last bundles form numerous intercommunications, and divide up into several smaller ones to again unite further on. There are thus formed numerous open spaces, which are mostly filled with Müller's circular fibres. These open spaces are more frequent over the ciliary processes, and, therefore, most circular fibres are here found. These circular fibres also frequently interlace; often some of the muscular bundles pass from their meridional direction into a circular one."

Prof. J. Henle's description and drawings of the ciliary muscle, lately published, agree with Meyer's. In his physiological remarks he considers "that the action of the circular and meridional fibres mutually assist each other in increasing the thickness of the muscle." He says accommodation is "produced, as far as we can now see, by the ciliary muscle, but in what manner this latter acts is still *unproved*."

In answer, therefore, to inquiry, and in explanation of my views, I would say, that I cannot consider the results obtained by Mr. Hancock's operation as in any way due to the incision of the ciliary muscle, and cannot see why a similar result should not follow opening of the globe further back, where there will be less danger of wounding the iris, zonula zinnii, and lens.

I have thought that the annulus ciliaris, or ciliary muscle, differed so much in animals from man, that it was useless to attempt to adduce from them its mechanism in accommodation in the latter. Meyer's investigations seem to bear me out in this also, as may be gathered from the deductions resulting from his investigations. He concludes that—"The *annulus ciliaris* of the *apes* consists of very long, contractile fibre-cells. Its topographical relations greatly resemble the human as regards origin, insertion and form. Open spaces are rarely present in the tissue, and Müller's fibres are entirely wanting.

"The *annulus ciliaris* of the *carnivorous* animals is muscular in character, its fibres run from before directly backwards, and leave no interspaces. The circular muscular bundles and the so-called intercommunicating fibres are entirely wanting.

"The *annulus ciliaris* of the *rodents* is formed either of subscleral tissue or true connective tissue; it is, at any rate, very insignificant, and in some hardly perceptible.

"The *annulus ciliaris* of the *pachydermata* consists of connective tissue, the separate bundles of which lie, without interspaces, so close together as to render them readily mistaken for muscular fibres. The ciliary band is in them comparatively thin, but extends far backwards.

"The *annulus ciliaris* of the *solipeds*, of the horse, namely, consists of a fine net of connective tissue, which is stretched transversely from sclerotic to choroid. The whole tissue is thin and insignificant, and there is no appearance of a compact mass.

"The *annulus ciliaris* of the *ruminants* appears as a firm mass of grayish white color, consisting of connective tissue. It is wedge-shaped, placed between the sclerotic and choroid, and varies considerably in its dimensions. The individual bundles lie here also close together, so as to leave no interspaces."

Digitized by Google

Meyer gives plates of longitudinal sections of the ciliary muscle of a wildcat and the annulus ciliaris of an antelope.

In the last number for 1865 of the Archiv für Ophthalmologie, Dr. Heiberg, of Christiana, has published an article on the anatomy and physiology of the zonula zinnii, in which he concludes, from microscopic examination, as if there are in it true muscular fibres, which, he thinks, by pulling on the capsule of the lens, flatten the latter, and thereby adapt it for rays from distant objects, producing what has been called negative accommodation. He gives microscopic drawings of these fibres from the zonula of the horse and also from man, resembling the striped muscular fibre of animal life with nuclei. Were this positively so, it certainly would be a very important fact; but Prof. Henle, of Göttingen, has, in the last published portion of his Systematic Human Anatomy, shown that this transverse marking is quite different from that of muscle of animal life, and is due to a very fine folding of the fibre, caused by the action of the acetic acid—the same as is produced on fibres of connective tissue. The zonula fibres are nearest allied to fibres of elastic tissue, yet differ from these in their reaction to acetic acid and potash. Finkbeiner thought he found striped muscular fibres in the zonula. Nuhn, as Dr. Heiberg, found that a certain proportion of these fibres became striped from the action of the acetate of the oxide of lead and acetic acid, and thought, therefore, as others (Camper, Retzius), that they were muscular, although this could not be proved, either chemically or by electric irritation. Dr. Heiberg insists, however, that he found these fibres in the fresh horse's eye, before being subjected to the action of any chemical agent.

It would seem that these fibres were but the peculiar tissue of the zonula. They are distributed through it all around the lens, as an elastic suspensory ligament—when considered together recalling the zonula and ligament of some of the larger fishes.

Dr. Jeffries exhibited Henle's, Weber's and Heiberg's plates, and enlarged drawings of Weber's sections, a diagram in illustration of accommodation, and dissections of the eyes of the horse mackerel (*Thynnus vulgaris*), the sword-fish (*Xiphias gladius*), and the common small phoca of our coast, to explain and prove his remarks and deductions.—*New York Medical Journal.*

DISEASES OF THE EYE AND EAR.

On the Sub-Conjunctival Injection of a Solution of Chloride of Sodium to Promote the Absorption of Corneal Exudations. By Professor Rothmund.

It is well known that a great variety of means have been used to promote the absorption of corneal opacities left behind by parenchymatous keratitis; and that the most successful of these have excited some degree of inflammation. Prof. Rothmund has lately used for this purpose a solution of common salt in distilled water (3j to ℥j). A small quantity

Digitized by Google

University MICHIGAN

of this solution, previously warmed, has been injected under the conjunctiva, by a syringe with a slightly curved point, introduced about a line and a half or two lines, from the margin of the cornea. The injection is made very slowly, and produces a *quasi* chemotic swelling around the cornea. This swelling is absorbed in about five or six hours, under a compressive bandage. The inflammatory symptoms produced subside in a few days; and the cornea begins to clear from the periphery towards the centre. After three or four weeks the injection may be repeated; and after from three to five injections it is usually possible to make an artificial pupil. Further experience of the value of this method is required.—(*Mon. Bl. für Augen-heilk.*, 1866; *Schmidt's Jahrbücher*, 1866.)—*British Med. Jour.*

Night-Blindness. By J. W. Hulke, F. R. C. S. E., Assistant-Surgeon to the Middlesex Hospital and Royal London Ophthalmic Hospital.

Mr. Hulke records a few cases selected from his note-books for the purpose of illustrating the two conditions of which night-blindness is the common symptom.

The first is exhausted sensitiveness of the retina caused by prolonged exposure to glaring light, which makes the bacillary layer of the retina incapable of being sufficiently stimulated by twilight for perception.

This affection is common among sailors in tropical seas. Men suffering from it cannot see to do their work after the sun goes down, except perhaps at full moon when the sky is clear; while in a well-lighted cabin their visual acuity is not much diminished. Mr. Hulke, has examined many cases of this kind without finding any organic change appreciable with the ophthalmoscope. After a few days, or at most, a week or two, ashore, the night-blindness disappears, but subsequent attacks are not unusual when those who once suffered are exposed to the same cause.

Rest and tonics comprise the treatment. The very frequent occurrence of night-blindness in men suffering from scurvy has led to the idea that here it may depend on purpura of the retina, but he has never yet seen this, though he has often looked for it in night-blind scurvy patients. Their liability proceeds from their feebleness, in which the retina shares.

The second condition of which night-blindness is a symptom, is a contracted state of the visual field, depending on structural alterations in the choroid and retina, characterized by very definite ophthalmoscopic signs. The bottom of the eye is overlaid with dots and clusters of black pigment scattered and massed, and often grouped along the course of the retinal vessels. The pigment is a derivative of the choroidal epithelium, and lies on the surface of the choroid, and also among the withered retinal tissues. Between the clusters the epithelium is wasted, and the other tissues of the choroid are seen to be atrophied. These alterations progress from the front of the choroid and retina towards the optic nerve, and they are attended with a corresponding diminution of the area of the visual field, which becomes so small that the patient has not a general view of surrounding objects and stumbles over them at

Digitized by Google

night; though so long as the centre of the retina remains unimplicated, the smallest type can be read in the contracted field. Ultimately, the optic nerve grows anæmic, the entire retina is involved in atrophy, and these final changes are marked by diminution of visual acuteness ending in blindness.

The disease has been named Retinitis Pigmentosa, and the name may be retained if we remember that the primary seat of the affection is the choroid. Usually it begins in early life, and it runs a very slow course, protracted through many years. Liebreich, who devoted much time to its investigation, found that about half the sufferers from it were children of blood-relations. Hitherto, Mr. Hulke's own inquiries on this point have always met with a negative answer. The disease is frequently traceable to inherited syphilis, and it often affects several members in a family.—*Half-Yearly Abstract of the Med. Sciences.*

Otitis Externa, with Treatment: By HENRY L. SHAW, M. D.

THE frequency of this disease, its serious nature oftentimes when left to itself, and the trifling manner in which it is regarded by patients, would seem to justify calling the attention of the profession to its consideration and to the importance of early and persistent treatment. The large number of patients who present themselves at our charitable institutions would, we think, be greatly increased, if people were impressed with the importance of attending to a discharge from the ear, however slight. One has but to attend the clinic of a public hospital to ascertain with what indifference the disease is looked upon. It is to be regretted that so few patients apply for aid during the acute stage. By carefully examining into their history, we find their troubles dating back for months or years. It is not an uncommon occurrence for them to wait for fifteen or twenty years before presenting themselves, and they are only then admonished to do so by the deafness, which is generally beyond help. Thus, the tympanic cavity is affected, and changes are produced by which the hearing is irrecoverably lost. It is rare for the disease to continue in a greater or less degree. Although patients do recover sometimes without treatment, there is still a very large number who, deceived by the absence of pain, and the non-appearance of the discharge externally, consider themselves well, even while the disease is progressing. The great relief following the acute symptoms by the appearance of the discharge, leads them to believe that its continuance has a salutary effect, or that its suppression would give rise to a similar affection of some other organ.

It is in the early stage, before the membrana tympani has become seriously diseased, that we obtain most satisfactory results from treatment. The length of this stage varies. It may last for weeks, but such is not its general course. Frequently, before we are aware of it, the ulcerative process has affected the membrana tympani, and the majority of cases render the prognosis less favorable. Very small perforations sometimes heal; such cases, however, are exceedingly rare. in almost every instance they go on increasing in size, until the greater part of the whole drum is destroyed. While it continues entire, no

Digitized by Google

matter what the condition of the canal may be, we may hope for a favorable termination. It is the extension of the inflammation to the tympanic cavity we are to guard against, and to prevent this our whole treatment should be directed.

Internal purulent otitis, as is well known, is very tedious, and oftentimes but little benefitted by treatment. Not so, however, with the disease under consideration, which, in most cases, is as successfully treated as the average of diseases; certainly more so than many forms of granular lids, or chronic inflammation of the lachrymal passages. That cases do occur which resist all treatment cannot be denied; but by timely and well directed efforts much the larger part can be cured. The disease seldom attacks both ears simultaneously, but is afterwards very likely to extend to the other ear.

It is often difficult to trace the disease to any known cause. It is frequently seen as one of the sequelæ of scarlatina, rubeola, and other acute diseases. Exposure to drafts of air, the violent use of injections, and the use of irritating remedies give rise to it. It may be produced by diseases of the skin, extending to the canal. Foreign bodies in the passage, although not a frequent cause, is one liable to be overlooked.

It is sometimes so insidious in its onset, particularly in infants, as not to be noticed until attention is drawn to the discharge; but this is not generally the case. It usually commences with well marked inflammatory symptoms. The patient complains of great heat and a feeling of fulness in the ears, followed by intense pain, which may extend to the whole side of the head and angle of the jaw, and frequently accompanied with delirium and sleeplessness. If we examine the ear, the external auditory canal, as far as seen, will be found tense and shining, and often swollen so much as to prevent an examination by the speculum. The lower part of the canal is much injected, and the membrana tympani, to which the disease has probably extended, is with difficulty distinguished from the surrounding parts, looking much like a granular lid when acutely inflamed. As the disease progresses, the pain, if possible, becomes more intense, and is early accompanied by a throbbing, which, in three or four days from the attack, is followed by the appearance of a thin, mucous discharge, much to the relief of the patient's suffering. The quantity of the discharge varies; sometimes it is not more than enough to moisten the passage, and again it amounts to several drachms daily. At the commencement of the disease the hearing power is somewhat diminished, the amount of deafness depending upon the severity of the attack. On the subsidence of the acute symptoms, the walls of the canal become less swollen and tender, and in a few days we can, after having cleansed them by the use of the forceps and injections of tepid water, make a thorough examination. We shall now find shreds of desquamated matter, sometimes almost a complete cast of the passage. If the disease has affected the membrana tympani, and is inclined to a favorable termination, this will appear less red, and the line of demarcation between it and the surrounding parts will be apparent. Under favorable circumstances, we shall be able to see the changes which take place. From a deep red it gradually becomes pale, and less swollen. Soon, instead of a uniform redness, we shall see white interspaces, and afterwards the boundary lines of the vessels can be distinctly traced. From this time it is slow in resuming its normal condition. Often the vessels are visible for a long time, particularly at that part where the

Digitized by Google

handle of the malleus is connected with the membrana tympani. The discharge assumes a muco purulent character, and lasts for several days, or a week or two, when the organ returns to nearly its normal condition. The hearing, however, is apt to be somewhat affected a still longer time. Should the disease not assume a more favorable character, the discharge continues muco-purulent for a variable time, until finally it will be found almost wholly purulent. The denuded walls of the passage and the surface of the membrana tympani continue inflamed, and instead of healing, secrete pus, which, by remaining in the passage, soon decomposes, and becomes a source of constant irritation. This is oftentimes sufficient to keep up the trouble. A knowledge of this fact is of great importance, if we would treat the disease successfully.

Treatment.—During the acute stage, our attention is first drawn to the pain. This can be relieved somewhat by the application of a few leeches in front of and below the meatus. General bleeding is sometimes, although very rarely, indicated. If the patient is of a plethoric habit, he should be restricted to a low diet, and ordered a cathartic. Perfect quiet, in a warm room, will add much to his comfort.

We shall derive the greatest benefit from the application of hot fomentations and poultices. The relief is almost instantaneous, and although their use is strongly objected to by some authors, few patients, after having used them, will allow their discontinuance. They should be changed frequently, and never allowed to become cold. The vapor of warm water, or of water impregnated with aqueous extract of opium, will be found beneficial. In some cases, great relief will be afforded by filling the ear with water as hot as can be borne comfortably. The free use of opiates will be required, and is generally indispensable. Of the different varieties, Dover's powder is perhaps the best.

Cleanliness and Injections.—During the acute stage, and while the ear is swollen and tender, injections of tepid water, if they can be employed without producing pain, should be used sufficiently often to prevent the accumulation of matter. Great gentleness will be required in removing this matter from the bottom of the canal. If the walls should bleed, or if very sensitive, the injections should be deferred, and leeches or other antiphlogistic treatment should be adopted. Injections can generally, however be administered without pain, if the nurse is instructed to direct the injection against the posterior walls of the passage. If a powerful stream is forced against the membrana tympani, it may be followed by giddiness, or even complete syncope. The danger of rupturing it, although less than in the chronic stage, is sufficiently great to require the utmost care. It should not be left entirely to the attend ant, although the necessary tact is soon acquired; as often as possible the physician should attend to it personally, and see that the whole canal is clear. Mild astringents can sometimes be used with advantage. When possible, the patient should rest with the head inclined towards the affected side, which allows the free exit of the discharge. This will not, however, in any case render the injections unnecessary. With the ordinary spring speculum, a thorough examination of the canal is often impossible; but with the cylindrical, and a weak concave mirror, it becomes easy, even while the patient is reclining in bed.

Chronic Stage.—The chief obstacles we meet with in treating the disease at this stage is the great difficulty of applying remedies directly to the affected surface. The dried pus and epithelial debris adhere to

Digitized by Google

the walls of the canal until they are sufficiently loosened by ulceration to be discharged. By this time a second crust is formed, and the ulcerative process is thus kept up indefinitely. In this respect, it resembles ciliary blepharitis; which, as is well known, is never cured until remedies are applied directly to the roots of the lashes. In that disease we impress upon the patient the importance of soaking the crusts until they are entirely removed; and then only do we consider the lid ready for treatment. Unfortunately, from the shape of the auditory passage, patients with the otitis are prevented from doing this, and it devolves upon the medical attendant, who will generally be able, by persistent efforts, to prevent their formation. We should never be satisfied with a superficial examination. The canal may, when not thoroughly examined, look quite well, yet we shall be very likely to find patches in an active state of ulceration. They are often at the bottom, and sometimes extend to the membrana tympani. Such cases should be closely watched, and may usually be benefitted by the application of nitrate of silver, of five to twenty grains to the ounce of water. Care should be taken not to touch the healthy surface. The frequent use of this salt to the whole of the canal, when only a small portion is affected, is useless, and, if strong, results in considerable harm.

The same strict attention to cleanliness is required in this stage of the disease, and also the free use of astringents. The mineral are most used, and are perhaps the best, although in some obstinate cases the vegetable are better. Of the former, those most in use are alum, acetate of lead and sulphate of zinc, of variable strength, from two to twenty grains to the ounce of water. Of the vegetable, tannin is most used. Sometimes a decoction of the plants containing it will be found to answer well. These remedies may be used with the syringe, several times daily. They should, of course, be previously warmed, as should all applications to the ear. If they are dropped in, it should be after syringing. Without this precaution, they would often be too much diluted to have any perceptible effect. We have used in this stage, with favorable results, the vapor of the tincture of chloride of iron. By the atomizer, this can be effected with facility. It should be used quite weak at first. We have generally commenced the treatment with only a few drops of the iron to an ounce of water. It may afterwards be increased to twenty or thirty drops. A very weak solution of nitrate of silver can sometimes be substituted with advantage. When not acutely inflamed, and the walls of the canal are pale and secrete large quantities of pus, the use of these remedies in the manner described will oftentimes be attended with gratifying results. When the passage is in the condition alluded to, this treatment will be found not disagreeable. It may be repeated every second day. If it causes pain it should be discontinued.

The canal ought never to be plugged with cotton. If its use should be considered necessary, it may be put loosely into the external orifice. If pushed well in, it soon becomes soaked with pus, swells, and prevents the exit of the discharge externally. As the pus accumulates, the chamber containing it is distended, and we shall be very likely to have rupture of the membrana tympani, through which the pus may be carried into the throat. It is not an uncommon occurrence for patients to apply to us, who assert that they have not put cotton into their ears since the early stage of their disease, which may have continued for

Digitized by Google

months, and on examination we find the bottom of the canal partly filled with it.

Constitutional remedies are, in many cases, of the greatest importance, particularly in children; yet they may be powerless, unless combined with local treatment. Quinine, cod-liver oil, and the preparations of iron are the ones most indicated. We would not underrate their great value, but we think that if the local treatment should be persisted in with the same zeal as the constitutional, we should derive far better results. Patients are often seen who have been under various kinds of treatment, and have perhaps never had the canal examined. They have relied entirely upon constitutional remedies, with, perhaps, some general directions in regard to cleanliness. This method of procedure is much to be regretted, and accounts, in a measure, for the want of success in a multitude of cases.—*Boston Medical and Surgical Journal.*

SURGICAL.

Middlesex Hospital—Treatment of Acute Orchitis by the Alternate Application of Heat and Cold: Under the care of Mr. NUNN.

IN private practice there is, in the treatment of gonorrhœa, no complication so much dreaded as that of swelled testicle; especially since the occurrence of the disorder of the testicle is too frequently attributed to some fault of management. The severity of the pain and the "sympathetic" disturbance of the general system have doubtless originated the very active plans of treatment often pursued in such cases. Whether surgical pathologists are strictly correct in teaching that the inflammatory action is limited to the epididymis, or not, it can scarcely be denied that the "sympathetic" phenomena have frequently relation to the nerve-supply of the body of the testis itself, or are such as would result from violent impressions on the body of the testis. The pain of ordinary swelled testicle is very variable. In some cases the distress is great from a terrible weight in the loins; in other cases the pain is chiefly referred to the crural branch of the genito-crural nerve; but in all cases swelling is the remarkable symptom. The swelling greatly depends on effusion into the tunica vaginalis, though of course the highly vascular and abundant connective tissue of the epididymis and the equally vascular structures of the scrotum have also an important share in the general enlargement. Mr. Nunn employs the alternate influence of hot and cold water in overcoming the inflammatory engorgement, having recourse to compression by strapping only in the later stage of the affection, when tenderness has in a great measure subsided.

The method of applying heat and cold to the testes is as follows: The patient is placed in a hot bath; after six or ten minutes a current of cold water is directed on to the testicle by means of an india rubber tube for a minute or two. The parts are again heated, and the application of the cold water is repeated in a similar manner three or four times. An almost immediate sense of relief is the usual result.—*The Lancet.*

Digitized by Google

Fractures of the Patella, Treated by a Ring, with cases: By PAUL F. EVE, M. D.,

ANOTHER benefaction has been given to humanity by the Profession, in the treatment of a very difficult, though fortunately not very frequent accident. The name of Dr. W. A. Gibson, of St. Louis, Mo., will hereafter ever be honorably associated with the management of a fractured patella; for by the suggestion of a *ring*, he has not only simplified, but we think, probably perfected, a method for treating these cases, whether the bony solution be transverse, oblique, longitudinal, stellate, or by comminution. A moment's reflection will convince medical men that of all means proposed to retain the fragments of a fractured patella in contact, and thus promote bony union, instead of the ligamentous one usually obtained in practice, the ring must have great and decided advantage, and is so simple in application, that the thought almost involuntarily arises, why was it not suggested sooner? And this is the more surprising when we consider the many various methods employed to keep the fractured parts in contact. The two plates of metal shaped like a horse-shoe, to fix and bring together the fragments; invented by the late Mr. Lonsdale; the plates with two sharp hooks, of M. Malgaigne, recently deceased; and the practice of Mr. J. Wood, of King's College Hospital, London, consisting of strappings encircling the upper and lower margins of the broken bones, and then crossing each other at the sides of the point to be fastened to hooks attached to a wide splint in the popliteal region; would all seem suggestive of the value of a ring under these circumstances.

In the future treatment of fractures of the bone under consideration, a revolution may be predicted, and the prognosis change, in the result, from ligamentous to bony union. For as Mr. Carsten Holthouse says, in "Holmes' Surgery," the great rareness of bone union in transverse fractures of the patella is owing simply to the difficulty of keeping the fragments in sufficiently close apposition; *when this is accomplished*, bony union occurs as in other fractures.

The idea so long entertained in treating fractures of the patella by position, so as to relax the quadriceps femoris muscle, we see by the October No., 1866 of the London Medical Times and Gazette, is now being abandoned, and Mr. Paget, at St. Bartholemew's Hospital, has been treating his cases for the past three years in the *horizontal position*. When, too, we reflect that only one (the rectus femoris) of these four muscles arises from the pelvis, while the others, the crureus and the two vasti, have their attachments to the shaft of the femur itself, we must be convinced how little position can effect in these cases. The fact is that after a day or two, the muscles relax spontaneously and the easiest and most unrestrained position of the limb has been found not only the most agreeable to the patient, but as good in its results.

We now give the case furnishing the occasion for introducing the ring in the treatment of fractured patella, followed by the two in which it has been employed in this city. Dr. Gibson published this in the September No. of the *St. Louis Medical and Surgical Journal*. The patient, Mr. James Ferree, aged 35 years, had been the victim of rheumatism, and having so far recovered that he could use crutches, in attempting to get into a buggy, felt a sudden shock, as if some one had hit him with a stone on the knee, and could scarcely be convinced that the fracture was caused by muscular contraction.

Digitized by Google

"The patella of the left knee was fractured transversely through its middle, the fragments separating about one inch. I did not admire any of the modes of treatment for the fracture which I had ever seen recommended or used, and while hesitating as to what plan I would adopt, it occurred to me that a ring would answer the purpose, I therefore took a measurement of the sound patella, and had a ring made of iron (allowing for padding), which I padded well with cotton wadding, cut in strips and wrapped around the ring, over which I applied a bandage. To each side of the ring I sewed strips of bandage. I then placed a well-padded splint twenty-four inches long to the posterior aspect of the leg and thigh, which I secured by a few turns of bandage at the lower and upper ends, the bandage being loose so as not to interfere with the circulation. I next brought the two fragments of bone into apposition, and placed the ring around the patella, and tied the strips of bandage over the splint, thus securely holding the ring in its place, and keeping the broken bone always in complete apposition, thereby giving the greatest possible chance for a bony union. At the expiration of thirty days, I removed the ring, and commenced passive motion of the limb, and to-day (June 15th) he has very good use of the limb. During the time this case was under treatment, I invited Drs. E. H. Gregory, J. J. McDowell, E. A. Clark, E. S. Frazier, and other physicians, to examine the appliance, and they all expressed the opinion that it was *just the thing* for a fractured patella. The advantages of the ring in the treatment of this troublesome fracture are so apparent, that it seems to me hardly necessary to point them out. The appliance did not give the patient the least pain, and there was no interruption of the circulation by the bandages. It was impossible in this case for the patella to escape from the ring, but possibly in some cases, as of women, when there is a good deal of adipose tissue, and but little prominence of the patella, it may not be so easy to apply the ring; but I am persuaded that it will give entire satisfaction in all cases. I claim by the application of the ring to have reduced one of the ugliest fractures of the human frame to one of the simplest for treatment.

"I report this case for the information of the profession, feeling confident from its perfect success that the ring has never been used before, or we certainly would have been familiar with its use."

Case 2.—On Sunday, the 28th day of last October, I was called to Lawson Marshall, a colored young man, who by a fall on a rock, in a state of inebriation, had fractured the left patella, directly transverse, in about the middle of the bone. There existed a separation of some two or more inches between the fragments. He had apparently a good constitution, and was in excellent health.

The usual curved and straight splint was applied to the posterior surface of the limb after reduction of the fracture, as recommended by Sir Astley Cooper, viz., by a broad belt around the lower part of the thigh, just above the upper fragment, then by a long bandage passing down from it at right angles on one side, under the sole of the foot, from which extension was made by ascending the other side parallel to the leg, and securing it to the same circular belt.

Within two weeks after this, the September No. of the *St. Louis Journal* was received, the case of Dr. Gibson noticed, and his practice at once adopted. The ring was worn five weeks, the latter three with-

Digitized by Google

out the posterior splints. At first it was padded, then applied directly to the surface. It is made of brass, softer than iron. It has answered every purpose in the treatment, and numerous witnesses, besides our class, saw this case, and all bear testimony to the great value of this method. I consider it the perfection (humanly speaking) in the treatment of fractures of this bone. One suggestion, however, is added, that the ring should be worn for three or four months, the patient being permitted to go about—mine refused to wear it longer than five weeks, making the whole treatment about seven weeks. The ring too might be slightly curved at the sides to which are secured the strips or bandlets to fasten it under the knee.

Case 3.—By a railway accident, during the night of the 18th of December, Mr. G., aged 29 years, and of fair constitution, received an extensive contusion over the right lower extremity, falling as he thinks, with his knee against the stove of the car, which caused a transverse fracture of the patella. Such was the injury to the soft part that twelve days were required of active treatment to subdue the resulting inflammation, and more than thirty, after it, the discoloration in the integument of the limb is quite apparent. In the mean time, the family physician, Dr. Thomas Menees, the President of the Nashville Medical Society, had consulted me in regard to the best management of the case, and when the ring, as advised by Dr. Gibson, was proposed, he at once approved of it, had one made and applied. It has now been worn uninterruptedly three weeks, keeping the fragments in close apposition, and there exists every prospect of a bony union.

The patient was up to-day, the 21st of January, in his chair. With nothing but the ring on, he stood upright, of course not on the injured limb, and commenced passive motion of the knee-joint. For security he still wears a splint of binders' board when out of bed.

Dr. Menees is fully satisfied that this simple treatment fulfills every indication, and is the best yet devised for a broken patella.

Feb'y 1st.—This patient is out on the street, with a cane, ready to resume business. With the ring he not only walks well, but can flex the leg nearly at right angle without inconvenience.—*Nashville Journal of Medicine and Surgery.*

A Lecture on the Treatment of Inflammation: By George Johnson, M. D., F. R. C. P., Professor of Medicine in King's College.

It is by no means easy to lay down general rules for the treatment of inflammation. That which we call inflammation differs so much according to the age and constitution of the patient, the nature of the exciting cause, and the organ or tissue which is affected, that *general* rules for its treatment must of necessity be *very general.* Nevertheless there *are* some general rules which may with advantage be propounded. One general proposition which I desire to impress upon you is this, that in many, nay, perhaps in most cases of acute inflammation, a tendency to spontaneous recovery is a part of the natural history of the disease. Take, for instance, a case of acute inflammation of the lung. This

Digitized by Google

is a serious form of inflammation affecting an important organ, yet it has a natural tendency to pass through its various stages and to terminate in recovery without any assistance from drugs that can be considered as directly curative—indeed, without help from medicines of any kind. Unless this fact in the history of the disease be continually borne in mind, it is impossible to estimate the influence of treatment. To disregard the *vis medicatrix naturæ* in the practice of therapeutics, is an error like that of an astronomer or an engineer who should take no account of the force of gravitation.

Another general principle is, that most forms of inflammation, whether acute or chronic, will disappear if the exciting cause can be discovered and removed. To ascertain and, if possible, to remove the cause, is an important object to be aimed at in every instance. The surgeon has much more frequent opportunities of effecting this object than the physician. The removal of a foreign body from an inflamed eye, or from a suppurating wound is usually attended with the happiest results. The physician not unfrequently, however, has the opportunity of acting upon the same principle. Thus he may trace bronchitis to the inhalation of irritating gases or particles of dust, or a chronic diarrhœa to the drinking of impure water, and he may instruct his patient to avoid the exciting cause. In some cases of chronic inflammation great benefit results from the discovery of an avoidable cause. For instance, I was once consulted by a lady, who, for two years, had had several of her joints crippled by rheumatic inflammation. She had had various advice and many drugs, but she got no benefit from them. I traced the disease, as I thought, to her drinking porter three or four times a day. I advised her to discontinue this, and to take no medicine; and in six weeks she was well. This was a case in which mere drugs were utterly powerless so long as the exciting cause continued in operation. They were quite unnecessary when the cause had ceased to operate.

There is a class of cases in which we may prevent or cut short an inflammatory disease, if we are called in sufficiently early after the patient has been exposed to the exciting cause. For instance, suppressed action of the skin by exposure to cold, is a common exciting cause of inflammation of the air-passages, such as we have in catarrh, bronchitis, or in inflammation of the substance of the lung. In such cases the most certain way of cutting short the malady is by exciting a free action of the skin. And this may most effectually be done by external warmth—best, perhaps, by the Turkish bath, or by an ordinary hot-air or vapor-bath, or by packing the patient in blankets, the inner blanket being wet. The secret of success in such cases consists in an early application of the remedy. If the catarrhal inflammation have passed beyond the earliest stage, its progress will not be stopped by this sweating treatment.

In some cases inflammation of the serous membranes and of other textures, is directly due to contamination of the blood consequent on acute or chronic disease of the kidney. In such cases, by treatment directed to the kidney, we endeavor to remove or to mitigate the exciting cause of the inflammation—namely, the blood contamination.

The actual treatment of inflammation consists of two parts, namely: the *antiphlogistic regimen* and *antiphlogistic remedies*. The antiphlogistic regimen has for its object to favor the tendency to spontaneous re-

Digitized by Google

covery, and also to assist the operation of more directly curative measures. It consists essentially of three parts—

1st. A scanty, or at any rate, for the most part, an unstimulating diet.

2d. General quietude of both mind and body.

3d. As much as is possible of *rest for the inflamed part.*

In many cases, at the commencement of acute inflammation with febrile excitement, abstinence from solid food as well as from fermented and spirituous liquors is desirable. Often, however, in the more advanced stages, and in not a few cases—disregarding the local inflammation, and looking to the general condition and powers of the patient—it is necessary to give nutritious food and stimulants even from the commencement. You must not so conduct the treatment of inflammation as to stamp out the disease at the risk of the patient's life. Bear in mind that the repair of the mischief which results from inflammation, can be effected only by the natural powers, and that your object should be rather to sustain than to impair those powers.

In all cases of serious inflammation *rest in bed* forms an important part of the treatment. Muscular exertion quickens and excites the heart's movements, and so increases pain and throbbing in the inflamed part. The inflamed part itself should be kept as absolutely at rest as possible. The surgeon endeavors to secure complete quiet for an inflamed joint, and in addition he often places the limb in such a position as to retard the flow of blood towards the inflamed part, and to favor its reflux by gravitation. So the head should be kept raised when the inflammation is there. Light should be excluded from an inflamed eye; and all food, except that which is mildest and most digestible, from an inflamed stomach. When the bladder or the urethra is inflamed, we render the urine less irritating to the inflamed surface by copious diluent drinks, and by neutralizing it either with alkalies or with alkaline citrates or tartrates. When the larynx is the seat of inflammation, no unnecessary talking should be allowed. And when inflammation affects the lung or the pleura, any exertion that tends to hurry the breathing should be avoided. When with pleuritic inflammation there is sharp pain in the chest, we commonly find that the movements of the chest on the painful side are instinctively restrained by the patient, who feels that every movement increases his suffering.

Passing on now to the consideration of the *remedies for inflammation*, we have to speak first of *bloodletting*.

Bloodletting may be either local or general—*i. e.*, the blood may be taken from the seat of the inflammation, or near it by a lancet-puncture, or by leeches, or by cupping; or it may be taken from an opened vein in the arm or neck—venesection as it is called. Arteriotomy is now rarely performed.

I will speak first of *local bleeding*. Local bleeding either abstracts the blood directly from the vessels of the inflamed part, or, by emptying the neighboring vessels, it diverts the blood from the seat of inflammation, and so lessens the tension of the over-distended vessels and tissues. An incision into an inflamed tonsil often gives great and immediate relief by emptying the over-gorged vessels, reducing swelling and tension, and thus giving greater freedom to the circulation. Scarification of the interior of the larynx is sometimes beneficial in the same way.

Digitized by Google

In cases of phlegmonous erysipelas, with great swelling and tension of the parts, free incisions are often highly useful, emptying the over-gorged vessels, relieving tension, and thus giving more freedom to the circulation; and lastly, giving free vent to pus and other exudations as soon as they are formed.

In the practice of surgery, incisions into inflamed tissues are often attended with the best results. When I was house-surgeon I once admitted a coal-porter with a fractured tibia. The man was drunk; he had attempted to walk after the accident, and there was considerable injury to the soft parts. In a few hours there was great swelling and tension of the leg, and vesications filled with dark fluid rapidly formed on the skin. In a few more hours the leg would have been hopelessly gangrenous. I sent for Mr. Simon, and he made free incisions into the leg; the wounds gaped widely. There was then a rapid decrease of swelling, and the man made a good recovery. In this and similar cases, the relief from the incisions is mainly due to the removal of the tension, which strangulates the vessels and blocks the circulation.

Local bleeding by leeches or by cupping is often very effectual in lessening swelling and turgescence, by abstracting the blood either directly from the seat of inflammation or from closely contiguous parts—e. g., from the under eyelid or from the temple in cases of opthalmia. The benefit from local bleeding is particularly great and manifest in cases of inflamed serous membranes—e. g., pleurisy, pericarditis, and peritonitis. The diminution of the pain and consequent dyspnœa is very striking; there can be no question as to the good result, and it certainly cannot be explained on the principle of mere counter-irritation.

General bleeding by venesection acts—

1st. By lessening the force of the heart, and so the impetus with which the blood is sent into the inflamed part.

2d. It causes derivation from the seat of inflammation, by lessening the total volume of blood in the body, and so, as it were, causing a demand for it elsewhere than in the seat of inflammation.

3d. Absorption is favored by a comparatively empty condition of the vessels. Bleeding, for instance, quickens the absorption of poisons from the stomach. While an artificial plethora of the vessels in animals, caused by injecting fluids into the veins, prevents or retards absorption.

4th. In cases of inflammation of the lungs or pleura, and in some cases of cardiac disease causing obstruction to the circulation through the lungs, venesection sometimes affords great relief by lessening over-distension of the right cavities of the heart, and the volume of blood which has to be sent through the lungs to be aerated.

At the end of September, 1866, there was a case in Twining ward which afforded a striking illustration of the good which may be done by a timely venesection. One of the sisters came during my visit to tell me that a woman just admitted was dying. She had chronic renal disease, considerable anasarca, engorgement of the lungs, with physical signs of liquid in the left pleura. She was gasping for breath, in great agony, the features blue, the eyeballs prominent and watery, the jugulars standing out like cords. She was evidently dying from over-distension of the right side of the heart. I asked Dr. Fenn to open the jugular vein. About ten ounces of blood flowed; the distension of the veins subsided, the breathing became easier before the blood had ceased to flow, and in

Digitized by Google

ten minutes all urgent dyspnœa had ceased and did not return. The woman died three weeks afterwards, and her kidneys were found in an advanced stage of degeneration.

Venesection is now comparatively seldom employed in the treatment of inflammation. Half a century ago the practice was very common. What has led to this change of practice? There are some distinguished physicians who maintain that inflammation has undergone a change of type; that whereas formerly inflammation was *sthenic*, and required venesection to subdue it, it is now of an *asthenic* type, and rarely requires or bears this treatment. Sir Thomas Watson, in his lectures, expresses this doctrine thus: "I am firmly persuaded, by my own observation and by the records of medicine, that there are *waves of time* through which the sthenic and the asthenic characters of disease prevail in succession; and that we are at present living amid one of its adynamic phases." But he has recently, with a characteristic candor which does him infinite credit, publicly expressed his belief that, in adopting this change of type theory, he was in error. In Dr. Markham's book, "Bleeding and Change of Type in Disease," there is a letter from Sir Thomas Watson, in which he says he "suspects" that, in the sentence which I have just quoted, he ought to have spoke of successive waves of "*opinion*" rather than that of "*time*."

It appears, then, that while medical opinions and medical practice have fluctuated, the diseased state which we call inflammation and the constitutions of our patients have remained unchanged. Great errors have been committed in past times by excess in bleeding, and now the tendency is to the opposite extreme—to neglect venesection utterly, even in cases which admit of unquestionable relief from this practice. The favorite modern doctrine is that all disease is weakness; all true remedial treatment supporting and restorative. This exclusive doctrine takes no account of oppression of the vital functions and organs by poisoning, or by blood-contamination—a morbid condition which often requires a method of treatment which is not *directly*, though all true remedies are of course *indirectly*, restorative. Venesection, in the case which I just now mentioned, was restorative in a way which neither brandy nor any other form of stimulant could have been. Pain is as exhausting as loss of blood; severe pain may rapidly kill. If we relieve the agonizing pain of pleurisy or pericarditis by leeches, our treatment is *indirectly*, but not the less *really*, restorative and sustaining. In the great majority of cases, all the good to be got from bloodletting may be obtained by local bleeding. For once that you practice venesection, you will probably cup or leech or scarify fifty times.

We are not likely soon to go to excess in the abstraction of blood. Our present knowledge of the essential characters of the inflammatory process, of necessity makes us cautious in resorting needlessly to any lowering methods of treatment. We have learnt that the changes induced by inflammation are essentially of a degenerative character, and that they afford no evidence of an excess of vital power. We see, too, that inflammation frequently occurs in those who have been subjected to debilitating influences of various kinds; and seeing this, we are careful to avoid all needless depletion.

When we come to the treatment of special diseases, I shall carefully describe the indications for the employment of venesection. I may mention here that certain conditions which were formerly supposed to call

Digitized by Google

for venesection, are now with reason considered rather to forbid the abstraction of blood.

The buffed and cupped state of blood may be favored by the blood being deficient in coloring matter; and this deficiency would, of course, be still further increased by venesection.

Mere rapidity of pulse is evidence of weakness. It would be increased by loss of blood, and is counteracted often by food and stimulants.

Delirium, again, for which in past times many a patient has been bled, would be almost certainly increased by bleeding; and it has often been a direct result of an injudicious abstraction of blood. On the other hand, the influence of a sustaining diet with stimulants, in warding off delirium, is often very obvious and unmistakable.

Purgatives are amongst the most frequent of the auxiliary means which are employed in the treatment of inflammation. By their means the bowels are freed from accumulated fæces and morbid secretions; and a considerable amount of depletion is carried on by the discharges from the extensive tract of mucous membrane. Purgatives are especially valuable in cases of inflammatory affections of the brain. In cases of inflammation within the chest they are of less value, and are seldom required. In inflammatory affections of the liver they are often beneficial. In inflammation of the stomach and intestines, whether of the mucous or serous membrane, purgatives, as a rule, are injurious by increasing irritation. They are opposed to the principle that an inflamed part should be kept at rest. The only cases of this kind in which they are admissible are those in which enteritis results from an accumulation of fæces, which should be removed by the mildest laxatives, such as castor oil, and by enemeta.

In some inflammations of the kidney—e. g., acute inflammatory Bright's disease—free purging is useful, not only as a means of elimination of water and retained urinary excreta from the blood, but it also lessens the work of the kidney by exciting a vicarious action of the bowels, and thus, by leaving the organ as much as possible at rest, it favors the tendency to spontaneous recovery from the inflammation.

Diluent drinks are useful as a means of assisting the elimination of waste products, which are partly formed in the blood itself, and which partly result from the disorganizing processes of inflammation. These materials are excreted chiefly by the bowel and by the kidney. Water, taken *ad libitum*, may be rendered more diuretic by the addition of some salts of potash or soda, which from time immemorial have enjoyed a febrifuge reputation. The carbonates of the alkalies may be given, either alone or effervescing with citric or tartaric acid. The nitrate of potash, too, is a useful diuretic febrifuge. Drinking copiously of water alone has been proved experimentally to increase the daily discharge of solids by the kidneys.

The method of treatment popularly known as the water cure is, for good or for evil, a very active method; especially useful in some forms of chronic gouty and rheumatic inflammation; especially to be dreaded as a routine practice indiscriminately applied.

Mercury was for a long period believed to be especially efficacious in the treatment of adhesive inflammation—inflammation, that is, which is attended with a copious effusion of coagulable lymph; for instance, inflammation of the pleura and pericardium, and of the serous membranes generally. There is one form of adhesive inflammation over which mer-

Digitized by Google

cury has a remarkable influence; I mean *syphilitic irritis*. The progress of the disease and of the cure may be observed through the transparent cornea. There is a pink vascular zone round the cornea; lymph is effused into the structure of the iris and upon its surface, sometimes in considerable masses; the aqueous humor is turbid; there is dimness of sight, and usually severe pain in the ball. As soon as the gums become tender under the influence of mercury, the progress of the disease is usually checked, and the symptoms rapidly disappear. The lymph is quickly absorbed; the vessels become less turgid; the pain and the dimness of sight pass away. It is over that specific form of inflammation which is caused by the poison of syphilis—whether affecting the eye, the larynx or the skin—that mercury exerts so great an influence, though the use of this metal is not essential even in these cases. Many cases of syphilitic irritis have of late years been successfully treated without mercury. In these cases, therefore, it is a very valuable adjunct, but not an indispensable requisite. In other forms of inflammation it is doubtful whether mercury has any special curative influence. Few practitioners now give mercury, except occasionally as a purgative, in the treatment of pericarditis and pleurisy. In many instances inflammation of the serous membranes is a result of degeneration of the kidneys, and a consequent contamination of the blood by urine; and it is an undoubted fact that patients with degenerated kidneys are speedily and injuriously affected by even small doses of mercury. I am not prepared to maintain positively that the antiphlogistic powers of mercury are limited to cases of syphilitic inflammation; I believe, however, that this statement would be very near the truth. This observation does not, of course, apply to the use of mercury as a purgative. The doctrine that mercury is to be given and pushed to salivation in all cases of inflammation which tend to the effusion of coagulable lymph is now quite indefensible.

When it is advisable to bring the system quickly under the influence of mercury, as in cases of syphilitic irritis, this may best be done by introducing the mineral through the skin. A broad piece of flannel smeared over with mercurial ointment may be wrapped round each arm, the patient remaining in bed. For the cure of syphilis in children, a flannel covered with mercurial ointment may be rolled round each knee. The calomel vapor-bath is a convenient mode of introducing the mercury gradually in chronic cases, without risk of disturbing the digestive organs.

Iodide of potassium, like mercury, has a specific influence over some forms of syphilitic inflammation, especially periostitis, ulceration of the fauces and larynx, and some forms of syphilitic cutaneous disease. In the use of this remedy it is important to bear in mind that full doses of ten and even fifteen grains will sometimes speedily effect a cure, when smaller doses have been quite ineffectual. The symptoms which have been cured by the iodide are apt to recur. In such cases a permanent cure may sometimes be effected by a combination of corrosive sublimate with the iodide. Iodide of potassium is curative in some cases of inflammation of the bones and periosteum which are not of syphilitic origin. Dr. Todd, in his clinical lectures, relates the case of an officer, who got a painful swelling on the frontal bone in consequence of a blow from the handle of a pistol; he also became epileptic. Mercury, purging, leeches, and blisters did no good; but a speedy and complete cure was

Digitized by Google

effected by the iodide of potassium, the dose of which was gradually increased from five to fifteen grains three times a day. Some years since I had a very similar case at the hospital. An engine-driver struck his forehead against the engine. A painful node arose, and he had two epileptic fits. I gave him the iodide, and the node quickly disappeared. Some weeks afterwards he had an epileptic fit after drinking to excess; but when I last heard of him, many months afterwards, there had been no recurrence either of the node or of the fits.

Antimony is a remedy of great utility in cases of inflammation of the air-passages, in the croup of children, in acute laryngitis of adults, in acute bronchitis, and in some forms of acute pneumonia. It is in the early stages that its efficacy is apparent, when the mucous membrane is dry, congested and swollen. It lessens the force of the heart, creates nausea, and promotes diaphoresis both from the skin and the pulmonary mucous membrane; and so, hastening the stage of secretion from the inflamed mucous membrane, it lessens the congestion and swelling and the consequent dyspnœa. It is not to be given after the early stages, when secretion is becoming copious. Inflammation of the tonsils (quinsy) and of the testicle may sometimes be cut short by nauseating and emetic doses of antimony at the very commencement of the attack. Antimony is to be avoided in cases of inflammation of the stomach and bowels, on account of its irritant action on those parts. It is of little use in the treatment of inflamed serous membranes, even those within the chest. The best mode of administering antimony in inflammatory diseases is in the form of a watery solution of the tartarised antimony.

Ipecacuanha, as a nauseant and emetic, may often be substituted for antimony; it is less violently depressing and has less irritant action on the mucous membrane of the stomach and intestines; it is therefore a safer medicine for children, and for all who have irritable bowels.

Opium is of great value in the treatment of some forms of inflammation, especially of serous membranes, and, above all, of the peritoneum. Its influence is chiefly on the nervous element, in the process of inflammation, which is as real, although not as apparent, as the part taken by the vessels. In peritonitis it is the chief remedy. I have seen the most desperate cases recover under the influence of opium alone, in frequent large doses. It soothes the nerves, lessens the depressing influence of the pain upon the heart, and keeps the inflamed surfaces as much as possible at rest. In pericarditis and pleurisy, opium is often useful after local bleeding. In inflammation of the substance of the lung, and in bronchitis, its use is much more limited; and especial care is required where there is a copious secretion of mucus, which has to be got rid of by frequent efforts of coughing. In cases of inflammation within the cranium, opium, as a rule, is inadmissible. Sir Thomas Watson wisely observes that, "as a general rule, you must be very careful how you venture upon opium in inflammatory diseases that tend to produce death by coma or by apnœa." On the other hand, it is especially useful when the tendency is to death by asthenia—e. g., in cases of inflammation within the abdomen.

Digitalis has been employed in the treatment of inflammation, on account of its well known tendency to reduce the force and frequency of the pulse. It is an unmanageable and a dangerous remedy. Bear in mind that the full hard pulse of inflammation is partly explained by the obstructed circulation at the seat of inflammation, requiring increased

Digitized by Google

efforts on the part of the heart to propel the blood onwards. To weaken the heart's contractions while the obstruction remains, is a mistake in practice similar to that of endeavoring, by lowering measures, to lessen the hypertrophy of the ventricle, which has for its object to overcome the impediment of a diseased valve or a diseased aorta. I believe that many a case of pneumonia has come to a sudden end in consequence of fatal syncope induced by digitalis.

Colchicum is commonly mentioned amongst the remedies for inflammation. It is supposed to be especially efficacious in cases of gouty inflammation.

Arsenic has a remarkable influence over some forms of chronic inflammation of the skin.

Chlorate of potash is of great value in cases of ulcerative stomatitis in ill-fed children. It is also efficacious in cases of mercurial ptyalism.

Local remedies are often employed with benefit in the treatment of inflammation. The application of cold to an inflamed skin is a powerful means of repressing inflammation, by causing constriction of the vessels. To be efficient, it must be continuously applied. An intermitting application causes a reaction and an increase of congestion. Cold is not to be used for inflammations which tend to shift their seat and to fix upon internal parts—e. g., gouty and rheumatic inflammation. For congestion and inflammation of the brain and its membranes, cold applications to the scalp are often beneficial. Cold may be applied by means of iced water in a bladder, or by evaporating lotions, cold sponging, or a cold douche.

Warm applications are often beneficial. They soothe the nerves of the inflamed part; they soften the tissues, and so lessen the constriction of the vessels, and they probably lessen the engorgement of the vessels by favoring the process of exudation. The sensations of the patient may in most cases be taken as a safe guide in the choice of hot or cold applications. But there are some forms and stages of inflammation in which warm applications are always to be preferred.

1. In cases of abdominal inflammation.

2. For inflammation within the chest. Fomentations and poultices are very soothing after leeching or cupping in acute pleurisy and pericarditis.

3. For erysipelatous inflammation of skin, warm applications are safer and more agreeable than cold.

4. When inflammation is likely to end in suppuration, poultices and fomentations quicken the process, and favor the progress of matter towards the surface; they are therefore more suitable than cold applications.

The exclusion of air from an inflamed surface tends to check and sometimes it arrests the progress of inflammation. With this view we sometimes apply flour over an erysipelatous skin, or collodion, or a mixture of collodion with oil. The progress of a boil may sometimes be arrested by a film of collodion. A vulgar remedy for a boil in some parts of the country is a coating of shoemaker's wax. Collodion, in drying, contracts, and so compresses the vessels of the inflamed part. Compression is sometimes used with success by uniformly strapping an inflamed testicle or an inflamed breast. The weakened walls of the vessels thus receive support, at the same time that the air is excluded as it is by collodion.

Digitized by Google

Nitrate of silver, solid or in strong solution, applied over the inflamed surface, sometimes stops the progress of erysipelas, or a whitlow, or inflammation of the lymphatics. This plan is strongly advocated by Mr. Higginbottom. It probably acts partly by forming a film of blackened and disorganized epidermis, which excludes the air from the part beneath as a film of collodion does; and its action may in part be explained by its causing shrinking and contraction of the skin, and so compression of the dilated vessels. Many ulcers, especially on mucous membranes, may be quickly healed by the nitrate of silver.

Certain remedies, though introduced through the stomach, have a local action on inflamed parts; as, for example, when copaiba or turpentine is curative of inflammation of the bladder or urethra, or of bronchitis.

Belladonna, and its active principle atropine, often appear to exert a wholesome curative influence when applied to an inflamed part. In cases of iritis, a solution of atropine (two grains to the ounce) dropped into the eye is beneficial, not merely by dilating the pupil, and so breaking down or preventing adhesions, but it appears to cause contraction of the blood-vessels, and so to check the progress of the inflammation. The extract of belladonna, in the form of the ointment or dissolved in glycerine, is a very useful application to an inflamed breast when mammary abscess is threatened; and I have seen it very efficacious when applied to inflamed lymphatic glands.

Amongst the local remedies for inflammation we have counter-irritation by blisters, sinapisms, turpentine, ammonia, croton oil, tartar emetic, issues, setons, moxa. These act on the principle of revulsion, and divert the blood from the seat of the disease to the surface. As a rule, counter-irritation is not applicable in the early stage of inflammation, when there is much febrile reaction and acute pain. The effect then often is to increase both the local and the general irritation. The action of a blister in irritating a serous membrane beneath, is well shown by a fact related by Mr. Simon (Holmes's System of Surgery, p. 104, note.) On post-mortem examination, a red patch visible through the peritoneum exactly corresponded with the area of a blister on the skin. Some modes of counter-irritation are very painful, and there is great variety in the sensibility of the skin in different patients. I have seen a patient with pneumonia thrown into a state of collapse by the pain of a turpentine stupe. Bear in mind that pain is as depressing as loss of blood, and do not inflict it without having in view a definite object which cannot otherwise be attained. I believe that a routine counter-irritant practice has been of late years too common. In the early stages of acute inflammation, especially of the serous membranes, you will find that hot fomentations and poultices, either with or without leech-bleeding, are not only more comforting, but actually more beneficial, than blisters and other irritants. Counter-irritants are of great value at a later stage to promote the absorption of the effused products

Lastly, in the treatment of all forms of inflammation, be very careful in the use of lowering and depressing remedies. Consider how frequently inflammation comes on in those who have been enfeebled by disease and by other exhausting influences. Bear in mind that the structural changes which it induces are such as tend to the degeneration and decay, and even death, of the parts involved. Do not carry the so-called antiphlogistic regimen too far. I repeat that there comes a period

Digitized by Google

sooner or later in almost all cases of inflammation, when the patient's strength has to be sustained by a generous diet, by tonics and by stimulants; and in not a few cases this plan of treatment is required from the very commencement.

Lowering treatment, be it remembered, if uncalled for, is rarely harmless; for every inflammation, in proportion to its extent and severity and duration, is followed by exhaustion, and every inflammation depends on vital power for recovery. He, therefore, who needlessly weakens his patient by lowering medicines and a lowering regimen, contributes to render exhaustion deadly, and textural repair difficult or impossible. In the present day, however, as Mr. Simon well observes (*loc. cit.*, p. 152) fashion and routine tend in the opposite direction, and there is, perhaps, more risk of excessive stimulation than of excessive depletion. The cases of inflammation in which we can be sure that we save life by the timely and judicious use of alcohol, are more numerous by far than those in which life can be saved, or recovery promoted by bleeding. But a routine abuse of alcohol may be very injurious, and such abuse you must learn to avoid. Do not prescribe alcoholic stimulants as a matter of course in all forms and stages of inflammation, but give them or withhold them as circumstances may seem to require, and in giving them let the amount prescribed be regulated by the special requirements of each case.—*Lancet.*

Three Cases of Dislocation and Fracture of the Spine. Trephining the Spine in one Case.

CASE I.—June 15th, 1866. Michael B., æt 21. At 7½ o'clock last evening patient was swinging upon a chain across the back of a wagon, when he lost his balance, fell backwards, and struck upon his head and neck. He did not lose his consciousness, but was unable to move his body or extremities. Some officious friend applied a blister to his neck. He entered the hospital at 10½ A. M. Pulse 60 and full. Respiration quiet, but wholly abdominal. Diaphragm contracting well. Head thrown back. Slight priapism. Paralysis of sensation and motion of entire person below the nipples anteriorly, and below the seventh cervical vetebra posteriorly. Slight sensibility just above elbows, increasing as you ascend. No reflex action. Body warm. Retention of urine and fæces. Patient could rotate his head through an arc equal to one-fourth of a circle, and could move it somewhat forwards and backwards, though nodding occasioned pain. He could also bend his neck laterally, but slightly.

The seventh cervical vertebra, and all below it, appeared to be uninjured. The fifth and sixth cervical, over which there was an effusion and swelling, seemed abnormally elastic on pressure. The vertebræ above could not be felt. No crepitus.

Patient was carefully put to bed, and his urine drawn. At 1½ P. M., his pulse was 48; at three, 44; at night, 56 to 64, and irregular. Speaks of tingling below elbows.

Digitized by Google

June 16th.—Pulse 64; respiration distressing and more frequent, averaging 36. No thoracic respiration; chest as still as a marble statue. Diaphragm working less forcibly. Amount of air inspired is small. Action of heart labored. Tympanites of abdomen. No facial paralysis. Mind perfectly conscious. Swallows and talks well. Entire paralysis of arms, legs, trunk, bladder, etc.

5, P. M.—Pulse more irregular and feebler; respiration 32; expiration noisy. Eats gruel. Moves his head from side to side. Talks incoherently. Speaks slowly, with great effort to articulate; words lagging.

8, P. M.—Respirations 28; pulse 50; both irregular and interrupted. Speaks with extreme effort.

9½, P. M.—Respiration gradually became slower and more shallow, until he died—fifty hours after the accident. No autopsy allowed.

CASE II.—Sept. 20th, 1866. Mr. N. B., a caulker, of middle age, while overseeing his men early in the morning, some frost having formed during the night, slipped while crossing from a ship to the wharf, and fell down between them. It being low water at the time, the distance fallen must have been considerable. He fell into the water and dock-mud, striking, as he fell, on the back of his neck, on a fender at the side of the vessel. His groans attracting attention after a short time, he was taken up, quite conscious, but paralyzed entirely below the neck. He was now conveyed in a carriage several miles to his home, and I saw him about twelve o'clock.

He was sitting propped up in a chair, with his legs raised upon a second chair, to prevent his sliding down upon the floor. His thorax was flexed upon the pelvis; his neck was bent forwards, and his arms hung helpless by his sides. He was quite conscious; protruded his tongue straight and easily; his pupils were normal; his pulse feeble and rather slow. He said he had no feeling below his neck.

His wet clothes were cut off, and he was carefully put to bed—his head propped on a pillow in the position he desired. Warmth was applied to the feet and to the surface of the body; stimulants were given; his urine drawn off. He was rolled on to his side, and the back examined. Tenderness and effusion were found over the posterior cervical region. It seemed as if the vertebræ just above the seventh cervical were depressed forwards. No mobility nor crepitus could be felt. Paralysis, both of sensation and motion, was total below the neck. The respiration abdominal. There was partial priapism. He was evidently in a state of shock.

6, P. M.—Strong reaction had come on. His pulse was full and slow; the body warm and moist; the mind perfectly clear and active. Paralysis was entire. A small amount of urine was drawn off. The walls of the thorax were perfectly motionless. The diaphragm was working forcibly. No symptoms of cerebral lesion.

Sept. 21st.—At 5, A M., I was called to him in haste and found him sinking. His respiration was slow and imperfect; his skin livid; the pulse feebler and slower; the mind affected by venous blood; mucous had collected in the bronchi, and could not be expectorated. His pulse and respiration grew slower and fainter, until he died, about twenty-four hours after the receipt of the injury. No autopsy.

According to Mr. Alexander Shaw (Holmes's Surgery, vol. ii, p. 212): "It is a melancholy fact that, in general, when the spinal cord is de-

Digitized by Google

stroyed in the upper dorsal and the cervical regions, the main question is, merely, how many days is the patient likely to survive the fatal injury? In such cases the principal cause of mortality is the greater or less interruption to the operation of breathing.

"The whole series of intercostal muscles, as well as the abdominal parietes, will be paralyzed. To explain how the process of respiration can be carried on in that defective condition, it has been thought sufficient to affirm, without discussion, that it is effected by the diaphragm exclusively. It is said that the phrenic nerve, which controls that muscle, emerging from the spinal canal above the fourth cervical vertebra, while it remains uninjured, will cause the diaphragm to contract; and when it relaxes, the weight and elasticity of the abdominal parietes will cause it to recede into the thorax, and expiration will take place.

"But between the fourth and fifth cervical vertebræ emerges the external or long thoracic nerve, the external respiratory nerve of Bell, which supplies the serratus magnus muscle. That muscle has a strong inspiratory power, when the shoulders are fixed. And as a certain tendency exists in the diaphragm, owing to its attachments to the ribs, when it contracts powerfully, to depress and draw together the lower margins of the thorax, the counteracting power of the serratus must exercise an important influence in making inspiration perfect.

"It may, therefore, be concluded that, in fractures of the vertebræ of the neck, if the spinal cord retains its function as low as the sixth, the diaphragm will have the coöperation of the serratus maguus muscle. And that assistance will be valuable for expiration as well as inspiration; for in proportion as the thorax is more elevated, it will descend with greater force by its elasticity, in expiration, and so expel the air from the lungs more effectually.

"Very frail, however, is the tenure by which a patient who has suffered fracture of the cervical vetebræ, holds life. The causes which cut him off early are twofold:

"1st. Owing to paralysis of the abdominal muscles, tympanites of the abdomen comes on and pushes up the diaphragm.

"2d. The mucus naturally secreted in the air-passages accumulates, owing to the inability of the patient to expel it by coughing. The blood becomes imperfectly oxygenized, and death is ushered in by coma."

CASE III.—Jan. 14th, 1867. A. B., æt about 40, while at work just after the noon rest, fell from a considerable height and struck upon his back and occiput. He was taken up conscious, but paralyzed in the legs and trunk. He became gradually more unconscious and feebler.

When I saw him, at half-past two, P. M., his pulse was quite feeble, and his respiration very small and entirely with the diaphragm. He could be easily roused to consciousness. There was no stertor. His pupils were contracted. There was partial priapism and retention of urine. The legs and trunk entirely helpless. The extremities warm. Bruising, and crepitation of broken bone were very evident between the scapulæ. He objected to having his head moved at all. He appeared to be suffering from shock, partial concussion of the brain, and pressure on the upper dorsal portion of the spinal cord. His pulse and respiration were failing, and it was evident that he must soon sink unless relieved. He refused to swallow, but was stimulated by alcoholic enemata.

Having in my mind the miserable end of the cases just related, I had

Digitized by Google

determined to trephine the spine, should another similar accident present itself. This patient had a perfectly evident fracture of the vertebral column in the upper dorsal region—a region more favorable for operation than the neck. If anything were to be done, it must be done immediately.

The patient was turned partially over upon his face, and an incision made over the fracture. The finger now entered a bruised and softened space, in which could be felt the broken ends of several spinous processes. On dissecting down upon and removing these, the laminæ were found to be broken. Segments of the arches of four vertebræ were removed with the trephine, elevator and tooth-forceps. The cord was now freely exposed, and seemed intact in its membranes, except a small spot at the upper border of the wound, where an appearance, which might be a laceration, presented itself. There was free venous hæmorrhage, but it ceased spontaneously. The rough edges of the laminæ were trimmed off with the gnawing forceps. The cord appeared to be free from pressure, both above and below the wound. No injury of the head was found. But emphysema began to appear on the right side and front of the thorax. The condition of the patient did not undergo much apparent change. The wound was left open. He was placed in a semi-supine position in bed, and stimulated, alternate hours, with alcoholic and beef-juice enemeta.

Jan. 15th, 9, A. M.—Entirely conscious; protrudes tongue; swallows; talks. Pulse 108, considerably fuller. Respiration 30, and thoracic; every intercostal muscle seen to be contracting well in inspiration. Some dyspnœa. Emphysema moderate, under pectoralis major of right side. Chest tympanitic. Respiration obscure. Priapism gone. Can feel slight touch with finger as low down as knee, but not lower. No hæmorrhage from spinal wound. Has been able to hold interviews with his wife and family.

From this time he began to fail. The pulse ran up to 160. The respiration became very rapid and distressing; the thoracic muscles moved with the diaphragm to the last. The breathing was short and catching, as if the lung were oppressed, but not paralyzed. He died about twenty-four hours after receiving the injury. No autopsy could be obtained; but there seems reason to conclude that he died of fractured or dislocated ribs, wound of the costal and pulmonary pleuræ, and pneumothorax, since his respiration, pulse, and mode of death differed totally from the other cases. They died with a pulse of 40, and a respiration growing slower and slower. He died with a pulse of 160, and a spasmodic and exceedingly rapid breathing.

Trephining the spine and raising the depressed laminæ, restored the inspiratory power of the intercostal muscles, and relieved the diaphragm; it restored, also, the trunk and thighs to sensibility.

If no lesions had existed in the chest, there would seem to be reason to have hoped for a favorable result. Immediate death from pressure on the nervous centre was averted, at any rate, and life prolonged. Reasons enough, surely, to follow up the operation of trephining the spine in an uncomplicated case.

Why should we not accept the only alternative from sure and speedy death which can be offered us? And especially so, since Dr. Brown-Séquard, as we understand him, gives a certain percentage of recoveries, and considers the operation less dangerous than trephining the skull. *Boston Medical and Surgical Journal.*

Digitized by Google

Compound Fracture of both bones of the fore arm—Gangrene—Amputation at the Shoulder Joint. By R. E. HOUGHTON, of Richmond, Indiana.

I was requested to visit a son of Jos. Draher, aged 14 years, who had fallen, March 9th, 1866, and fractured both bones of his arm about three inches above the wrist. The injury was dressed by a physician in the neighborhood; bones replaced with splints and bandages. This was on the 7th day, or Saturday evening; on Monday, it was discovered that the hand was cold and becoming dark-colored, and on Tuesday morning, mortification had extended above the elbow. It was then decided to amputate, and I was sent for. Being some ten or twelve miles, it was 2 o'clock in the afternoon when I reached the home of the boy. I found that the mortification had extended nearly to the shoulder not leaving enough of sound tissue to make an operation, without cutting into tissue, infiltrated and swollen. The arm was black with vesications to the insertion of the deltoid muscles; with a dark mottled appearance, extending to the joint upon the upper and outer side, and infiltrated and much swollen into the axillary space. I could not detect the pulsation of the axillary artery, probably from the swollen condition of the tissues. I decided that the only operation which had any hope of succeeding, was an amputation, with disarticulation at the joint. The boy had enjoyed vigorous health up to the time of his injury—so much being in his favor. But the rapid progress of the mortification, with so much infiltration of the tissues, raised serious doubts as to the final result. I believed then that the poisoned fluids of the arm had already been taken into the circulation, and if so, we might expect irritation of the lungs, possible thrombus or embolia, and its results, if he did not die during the operation or immediately after it. But seeing there was no time to be lost, and under such circumstances, believing it always right to give the last remaining chance or chances to the sufferer, I performed the amputation by disarticulation, by the double flap process of Lisfranc. This process, when it can be adopted furnishes the most rapid, and as some writers would say, the most brilliant operation, and in this case, the most perfect results. There were but a few ounces of blood lost; the boy was not much depressed; the wound was dressed in the ordinary way and he was laid in bed. For a few days there was troublesome cough, with bronchial irritation, which arose, as I apprehended, from the introduction of poisoned fluids into a circulation, and thus setting up the bronchial complication. Anodynes, to relieve cough, promote rest, and nutritious diet, constituted his treatment mainly. Within two weeks he was up and running about; the flaps having united, almost wholly by the first intention or adhesion, save a point at the lower angle where the ligature and discharges escaped. The case is one of much interest to me, being a rapid recovery from a severe and dangerous operation, performed under the most critical and dangerous circumstances to life.

This is the third capital operation by amputation for traumatic gangrene in which I have been engaged; two cases of amputation of thigh and one of shoulder, where one proved fatal and two recovered; the fatal one from having been delayed too long by the patient, after being warned of the consequence.—*Cincinnati Lancet and Observer, January*, 1867.

Digitized by Google

Severe Injury to the Left Kidney and other Abdominal Viscera, Produced by a fall—Remarkable Recovery. By CHAS. W. CHANCELLOR, M. D., of Memphis, Tenn.

A. J. P., a stout healthy lad, aged ten years, while at play with his companions, mounted the back of a large hog from which he was thrown into a ditch about two feet deep, with such violence as to cause severe injury to the left kidney and other abdominal viscera.

This occurred on the 19th day of November, at 10 o'clock in the morning. Immediately after the fall he regained his feet and walked about ten steps, when he fell in syncope. He was taken to the residence of his father, near by, and when seen by me, one hour after the fall, was in a state of alarming prostration; extremities cold; lips blanched; uneasy sensation over the epigastric region, but no particular pain complained of. These symptoms were ascribed to a supposed concussion of the solar plexus:—ordered stimulants internally, and sinapisms to the extremities.—Reäction was soon partially established, but tenderness upon pressure over the left umbilical region discovered itself. With this exception there were no objective indications of internal injury. Stimulants to be continued *pro re nata*. At 8 o'clock, P. M., there were well marked indications of returning collapse, and soon the extremities became cold, the countenance blanched and listless; pulse thready and indistinct. There was now a circumscribed tympanitic distention of the epigastric region, which pressed upon the diaphragm and caused painful dyspnœa. There was also urgent thirst, which gave rise to apprehensions of internal hæmorrhage. Decumbitus supine, Ordered stimulants every fifteen minutes, and an injection of ol. terebinth; warm. Turpentine fomentation to be applied over the abdomen. 10 o'clock P. M.—Has passed injection with considerable flatus, but no fæcal matter: ejects from the mouth a thin yellow fluid. Continue stimulants and fomentations.

20th, 8 o'clock A. M.—Has passed about one pint of bloody urine. Bowels unmoved; respiration hurried; does not complain of pain except under pressure: pulse better, more volume and less frequent; extremities warm; abdomen more distended; acute pain elicited by pressure over the left kidney. Ordered enema of castor oil and spirits of turpentine to be repeated, if not followed by fæcal dejection, in three hours. 12 o'clock.—Pulse 140; tongue moist and thickly coated; indication of sordes upon the teeth; thirst not so urgent; abdomen uniformly and greatly distended—very tense and exquisitely tender—cries out upon the slightest pressure or motion, even the weight of a sheet occasions distress; countenance dull and dejected; skin doughy; considerable delirium. Has passed another pint of bloody urine and coagula. Ordered fomentation of warm turpentine over the left kidney, and one drop of Fleming's tincture of aconite, internally, every two hours.—6 o'clock, P. M.—Pulse 132 beats to the minute; surface dry and parched; expectoration of yellow fluid more copious; passed half a pint of clear urine, which was followed by a slight discharge of blood from the bladder; delirium continues, with lucid intervals; indications of much suffering; abdomen more distended and tense but less resonant under percussion; continue aconite, as an arterial sedative.

21st, 7 o'clock.—Has passed urine three times through the night, unmingled with blood. No dejections from the bowels; jactitation and

Digitized by Google

moaning; tongue heavily coated; breathing laborious; abdomen distended, hard, tense and tender. Ordered,

℞. Hydg. Submuriat, grs, v.
Ol. Tiglii, gtt. ss.
Mis.—Et. ft. Pil. no. j.

Sig.—To be given at once. Continue aconite.

Three o'clock P. M.—Has had two free dejections from the bowels and passed water unmixed with blood. Vomited twice a quantity of the yellow fluid, which has charcterized his expectoration throughout; abdomen less tense and hard but tympanitic; less jactitation; sleeps quietly. Continue aconite every two hours and reäpply turpentine fomentations over the abdomen.

22d.—General condition more favorable. Had two actions of the bowels and passed water through the night; abdomen tympanitic but less distended and tender; breathing less labored; disposed to play, and says he is "better;" pulse 115; tongue still coated. Give aconite every three hours. 4 o'clock P. M.—Exacerbation of fever; pulse 130 to the minute. Ordered aconite to be given every hour,

23rd.—Manifest improvement; has had a comfortable night, and has taken nourishment; breathing much easier; pulse 96; tongue cleaning; abdomen flaccid. Continue aconite at longer intervals.

From this time, improvement continued to complete convalescence. *Richmond Medical Journal, Febuary,* 1867.

A Curious Malformation of the Genito-Urinary Organs.

The following brief description of this almost unique and deeply interesting case, is reported from the remarks of the Professor of Surgery, made at the time Mr. Y. came before the Class of the University of Nashville, the 2nd of January, 1867, for inspection.

He is aged 18 years, was born in the State of New York, but resides now in Michigan. He has what is termed *extroversion* of the bladder, with deficiency of the anterior wall of this organ and hypogastrium. The pubic symphysis is also absent. There is a very red and vascular tumor about the size of an egg, protruding in the hypogastric region, and in the situation of the pubes, made by the everted *bladder* itself, from which there is a constant dribbling of urine emitted by the two ureters, whose orifices are open on this surface. The posterior wall and base of the bladder have been pushed forward by the abdominal viscera, and thus has been formed, the red and vascular prominence covered by the mucous membrane, in the situation of the pubes. This red, highly injected mucous surface is highly sensitive, bleeds readily when touched, and is excoriated and ulcerated in several spots.

The stump of the penis, about an inch or inch and a-half in length, is completely reversed, turned upside down, and has no corpus spongiosum, or urethra, but as a substitute for this canal, a deep groove exists upon the median line of the corpora cavernosa. The glans penis with a pretty fair perpuce, (except that there is no meatus urinarius, or orifice of

Digitized by Google

urethra), rests upon the scrotum, which contains two small testicles. In cases of extroversion of the bladder there is usually hernia of the bowels; and in this case the hernia exists in the right side, in a pouch-like fold of integument, covered with hair and representing the scrotum.

No regular prostate, or seminal vesicles are apparent, but these may be in a rudimentary state, and the subject of this deformity, may have amorous desires, and emissions of semen, although he is undoubtedly impotent, from the nature of the malformation, and the position in which the semen is discharged, over the exposed surface of the mucous membrane of the bladder. He has a full growth of hair around the extrophy.

Mr. Y. wears no shirt-tail. drawers or pantaloons; his boots reach above the knees, and a long wadded cloak extends half way down the legs. He waddles when he walks, as he has no symphysis at the pubis.

The case may be considered almost beyond the reach of surgery. Mr. Simon, of St. Thomas's Hospital, attempted, in a male case, to turn back the orifices of the ureters into the rectum; and although the patient was relieved of some discomfort, the operation could scarcely be considered as successful; and in some other cases fatal results have followed the operation. Mr. Holmes has recently succeeded in covering the part by lateral flaps, in a young male child. Incontinence of urine exists of course as before; but an instrument may now be easily contrived to catch the urine, and the patient no longer suffers pain or abrasion by friction. Dr. Pancoast, of Philadelphia, also operated, with partial success on an adult male; the patient however, died of a fever, before the completion of the treatment.

The nature of the operation required in the female is less formidable, inasmuch as the indication is rather simply to cover the bladder, than to alter the course of the ureters. Dr. Ayers, of Brooklyn, succeeded in covering the extroverted bladder of a young woman with integuments borrowed from the neighboring parts of the abdomen. A flap of skin was brought down from the part above, and turned down over the bladder below, so that the cutaneous surface was in contact with the mucous membrane, and the integuments, previously raised by dissection, from each side of the vulva, were brought up towards the middle line, to meet the first flap. The result obtained by this operation of Dr. Ayers, was a covering to the bladder, and a small opening for the exit of the urine, which admitted the application of an efficient apparatus to retain it. Sexually considered, the defect is of a less serious character, in the female, as the generative function does not necessarily remain in abeyance.

The results of extroversion in Mr. Y. might be palliated by well-adapted mechanical means; a receptacle, or artificial reservoir for the urine, might improve the condition of this man, and render him less offensive to those about him. Whenever he stops, even for a few minutes, he leaves a puddle of urine, and his clothing and bedding are constantly saturated with this fluid. The mechanical contrivance should combine great nicety of fit, with the capacity for adjustment, in various positions of the body.

It appears that this malformation occurs most commonly in the male; the four cases which Professor Eve has witnessed in this country and Europe, were all of this sex.—*Nashville Journal of Medicine and Surgery.*

Digitized by Google

Wounds of the Knee-Joint : Case of recovery without Anchylosis. By W. B. DODSON, M. D., New Orleans.

In October, 1861, C. K., æt. about 11 years, was accidentally thrown beneath the wheels of a city railroad-car, nearly opposite my office. He was removed from the place of the accident to Dr. M.'s office, where I first saw him, ten or fifteen minutes after the occurrence. He was pale, shivering, and exhausted from pain and loss of blood. The wounds, which were numerous and extensive, were examined; the hæmorrhage checked by the immediate application of cold water; some brandy and tr. opii. administered; the wounds temporarily dressed; and the patient put into a carriage and taken to his place of residence, where the saturated applications were removed and suitable dressings applied.

Both limbs were terribly lacerated. There was a wound on the outer side of the right foot, above the malleolus, extending downwards and backwards to the bottom of the foot, exposing the *fibula* and *os calcis;* a similar and counter one, extending into the hollow of the foot; and one on each side above the knee, diagonally across the lower third of the thigh. The left knee had suffered considerably. The integuments were lacerated extensively, and the capsular ligament of the joint on the inside was divided to the extent of an inch and a half, admitting the finger to pass freely within the joint. A probe was also passed through and to the opposite side of the joint, in presence of Dr. Meux. There were two other wounds above the knee, and similar to those described on the right limb, only deeper and more extensive. No large nerves nor blood-vessels were divided. To save the limb, even at the risk of deformity, was considered important and determined upon. To prevent inflammation and anchylosis was exceedingly desirable, but equally doubtful. The soft parts were brought together and secured by sutures, the wounds dressed, and the limb put in an easy position, semi-flexed. The patient was nervous and irritable, almost beyond description, and obstinately refused the administration of chloroform. Notwithstanding the system reacted slowly, the wounds granulated and healed kindly, and in less than six weeks Charley was on his feet again, without anchylosis of the joint, or any deformity of the limbs: and at the end of a few more weeks, the use of the knee-joint was as free and perfect as before the accident.

The impression, or belief, is to some extent prevalent, that the admission of atmospheric air within the capsular ligament of a joint, is productive of inflammation, and consequetly destructive to the mechanism of the joint.—*New Orleans Medical and Surgical Journal, March*, 1867.

On Dislocation of the Shoulder, reduced by Manipulation. By D. G. RUSH, M. D., of Chicago.

DISLOCATIONS of the shoulder-joint being admittedly more frequent than luxations of all the other joints of the human frame, and, with one exception, most difficult to reduce, it is desirable that some means of reduction,

Digitized by Google

safe and reliable, should be devised and taught. Such means, it is confidently believed, exists in the shoulder articulation itself; the surgeon needs only call them into requisition; the humerus can be made to serve as a powerful lever, and the ligaments to maintain a steady fulcrum at an eccentric point with the head of the humerus and the brim of the glenoid cavity.

I will briefly instance the mode now generally adopted before claiming the necessity of their being superseded by others. Systematic writers on surgery almost universally insist on the application of direct traction force, in reductions generally, either by manual or instrumental means. The first expedient being to pull forcibly at the arm in a line with the body, the surgeon's heel being pressed against the scapula in the exilla. This failing, as it not unfrequently will, more especially in cases where the neck of the humerus is tightly embraced by the rent edges in the capsular ligament; powerful force is applied to the limb whilst it is carried in various directions; first at a right angle with the body, then vertically, with the arm brought to the side of the patient's head, as orignally taught many years ago, by Dr. White.

All these efforts failing, for they have, and may continue to fail, at the hands of skillful surgeons, the same line of procedure is prosecuted with increased heroism, and the pulleys are now substituted for manual force. With this powerful instrument failure does not seem possible, as every resisting element is at the mercy of the surgeon; we cannot fail to notice, however, the reluctance with which they are resorted to, or advised by surgeons most experienced in their use, Great injuries, indeed, have resulted from their use, such as rupture of the axillary artery in chronic, and fracture of the border of the glenoid cavity in recent cases; and, as in a case brought to my notice, the skin parting where the pulleys were secured to the arm by a wet roller, a ghastly wound resulted, and a suit for malpractice was instituted. From the evidence, too, that recoveries following the use of the pulleys are frequently slow and not satisfactory, it is justly inferable that many injuries result from their employment which do not at first manifest themselves, or for prudential reasons are not published.

That there is a want, then, to be supplied in this department of surgery, I will now accept as generally conceded. In demonstration of the practical value of the reduction of the shoulder-joint by manipulation, an operation which, it is believed, supplies the above want, the following case is presented in illustration. Similar cases came under my notice in the military service, which had resisted protracted efforts, and were readily reduced by the simple movements shortly to be described.

On the night of December 21st, 1866, I was called to see Mr. F., of Chicago. I was informed by the medical attendant that Mr. F. had met with an accident which resulted in the dislocation of the shoulder, and that because of the rigidity of the muscles, it could not be reduced. On examination I found a dislocation downwards, the head of the humerus occupying the axilla. Protracted and various efforts had been made to effect a reduction; several persons pulling while the surgeon's foot occupied the axilla. After these, my services were solicited.

Finding the parts very painful, and patient unwilling to endure the pain attending the slightest movement of the arm, chloroform was administered before any efforts at reduction were repeated. When under the full effects of chloroform, the forearm bent upon the arm; the hu-

Digitized by Google

merus was firmly rotated outwards. This rotary tension being preserved, the elbow was brought to a right angle with the body, and with a reverse rotary movement, the arm was then carried across the chest on a line with the clavicle, an audible snap indicating the return of the head of the humerus to the deserted cavity.

It is not deemed necessary to consider, in this article, any of the causes which may produce the injury under consideration, the several varieties, nor the symptoms by which it may be recognized, as they are generally unequivocal and readily distinguished. I may, however, remark in this connection, that the reduction of the shoulder-joint by manipulation, is equally applicable to all the varieties of shoulder dislocations, modified according to the situation of the rupture in the ligaments.

Reduction of the shoulder-joint by manipulation is not a new discovery, attention having been called to it as early as 1833, by Sir Philip Crampton, who strongly advocated the operation, and submitted rules for its performance. These first rules did not seem to succeed well in other hands, for they were based on the fatal supposition that all the surgeon need aim to accomplish was to first induce relaxation of the muscles on the dorsum of the scapula, and then by reverse movement of the arm excite contraction of the same. This operation consequently had fallen quite into disuse, when, after the discovery of the reduction of the hip-joint by manipulations by Dr. Reed, of New York, and the superiority of his procedure had been fully acknowledged; it was revived by Henry H. Smith, of Philadelphia, who repeatedly demonstrated the practical value of the plan, on the shoulder, not less than on the hip-joint.

In laying down rules, however, for the performance of these manipulatory movements, Dr. Smith, too, fell into the error of supposing that the reduction depended on the responses induced in the posterior scapular muscles. Although Dr. Smith directs supination and pronation of the hand to be made during the several steps of the operation, yet his conclusions as to the cause of reduction so impress every one with the idea that the above-named muscles, in some way, must be alone instrumental in restoring the injury, that he naturally neglects to attend to the most important principles; and failing in his first efforts, the operation is suspended. Hence, the vain effort this operation has hitherto made to receive its merited rank and appreciation. It is confidently believed, that the philosophy of these manipulations need only be clearly comprehended to place this operation in the first rank as a surgical procedure.

It is not strange that the theory of muscular influence should adhere so tenaciously to the subject of dislocations, for from the earliest teachings on surgery we see nothing but a war of surgeon and muscle arrayed against each other. Much stress had been laid on the action of the deltoid and spinati muscles pressing the head of the humerus firmly against the lower border of the neck of the scapula, while the pectoral and others draw the humerus inwards.

Now, whilst it is not alleged that the muscles are not capable of offering any opposition to our efforts, I am of opinion that their resistance is, comparatively, quite subordinate; so are they also equally ineffectual as an aid in these manipulations. Chloroform is a certain test of these theories, for it is acknowledged on all sides that it relaxes the

Digitized by Google

muscles completely. If the muscular theory were true, this potent agent should remove every obstacle, and the displaced member be freely movable in a line with the displacement. Though it generally facilitates the reduction by traction, yet it often fails to remove the difficulty. Again, if it were true that the reduction by manipulation was effected by causing certain muscles to respond to our will, chloroform must necessarily defeat our object. That it does not defeat it, I have myself too frequently demonstrated to admit of doubt. I shall now attempt to make the operation intelligible.

We will suppose we are called upon to reduce a dislocation of the shoulder downwards. The patient lying on a table, the affected side brought to the edge, and chloroform administered, the surgeon grasps the wrist with one hand and the elbow with the other. Bringing the forearm to a right angle with the arm, the elbow is pressed against the side of the body, and the hand drawn outward, thus producing rotation of the humerus, and tension of the capsular ligament; the tension being maintained, the elbow is brought to a right angle with the body and slightly depressed. The arm is next carried across the chest in a line with the clavicle, reversing the rotation of the humerus in this last movement, when an audible snap will generally indicate the reduction of the dislocation. Should the head of the bone by any chance, slide back into the axilla, these movements must be repeated.

In order to make these manipulations more comprehensive, a few remarks may serve to elucidate them. The forearm is bent on the arm simply to afford a lever to facilite the rotation of the humerus, which is rotated for the double purpose of producing tension of the ligaments whilst the arm is abducted, and bringing the tubercle down to rest against the border of the glenoid cavity, where it becomes arrested and acts as a fulcrum. The head of the humerus being eccentric to the fulcrum, it is not difficult to understand how it may be made to slip over the brim of the cavity, and returned to its normal lodgement.—*Chicago Medical Journal, February*, 1867.

A Case of Elephantiasis—Successful Recovery. By R. Dexter, M. D., Chicago.

Carrie G., æt. 20, an inmate of the Erring Women's Refuge, gives the following history of herself and the outgrowth:—

Is a native of Rochester, N. Y.; has resided in the southern part of Illinois several years. A little more than a year ago, she observed that the external labia were somewhat increased in size, and presented an unusually rough appearance. The rapid growth of the parts induced her to seek medical advice. The external application of iodine was prescribed, together with the exhibition of internal remedies, but without any beneficial results.

The advice of another physician was sought, but change of treatment brought no relief.

Our attention was called to the case about two months since. Found

Digitized by Google

the external labia enormously hypertrophied, presenting every appearance and symptoms of elephantiasis. Each lip was about five inches long, and one and a-half inches through. It seemed that but one alternative remained, viz :—excision. The council of a medical gentleman was obtained, who fully concurred in the opinions above given.

Accordingly, on the 21st of December last, we removed the entire mass. Hæmorrhage was controlled during the operation by tying the arteries as they were divided. There was four on each side, but were not enlarged. Recovery will be perfect, with but trifling deformity. *Chicago Medical Examiner.*

OBSTETRICAL.

Cases of Postural Treatment in Prolapse of the Funis: By ROBERT DYCE, M. D., F. R. S., Edinburgh, Professor of Midwifery, University of Aberdeen.

As the two following cases were so eminently successful in this but too fatal complication of labor to the child by this method of treatment, I send them for publication.

The first case was conducted by Dr. Thomas Milne, then a student attending my class in this University, and which most opportunely took place shortly after treating of this method. He reports as follows.

"Mrs. W., aged 27, second pregnancy; a healthy, rather stout, but well-made woman. When I first saw her she had been in labor for three hours. The membranes had ruptured some time before. The os uteri was fully dilated. The head presented naturally, and was partially through the brim, and hanging in the vagina, and projecting beyond the external parts was a loop of the funis; it was pulsating feebly, which ceased during every pain. The pains were regular, and recurring about every ten or twelve minutes. I endeavored to push up the cord in the interval of the pain, with the patient lying in the usual obstetric position, but failed; when remembering what you recently, in the course of lectures, had been describing of the success attending the 'postural method,' as proposed by Dr. Thomas, of New York, I at once placed the patient on her elbows and knees, with the head and shoulders lower than the pelvis. I now pressed the head of the child a little up, and then steadily endeavored to push up the cord; it passed away most readily, but during the next pain it came down as before. I again, in the interval of pain, put it up, but the next pain brought it down. The third time I passed my whole hand into the vagina, and carried the cord beyond the head; when the pain came on, I could only feel it with the tip of my finger, and when the pain left, the funis had slipped beyond my reach, and did not again return. The patient was kept in the same position until the child's head was fairly in the cavity of the pelvis and nearly touching the perinæum. I then allowed her to take

Digitized by Google

the usual position, and in about two hours the child was born alive, though rather feeble. Both mother and child have since done well."

The second case of funis presentation was further complicated with placenta prævia.

Mrs. M., during her fifth pregnancy, in the latter months had three several sudden discharges of blood from the vagina—the first time during the night, the second time when dressing in the morning, and the third time also in the morning the day before her confinement; on all occasions the discharge stopped suddenly, and proceeded from no accident or cause on her part. The symptoms were suspicious of placental presentation, but as she wanted a good many weeks from her full time by her own calculation, and more especially as the loss of blood had produced no particular constitutional disturbance, I risked the uncertainty by not making any examination. When summoned on the night of her confinement (twelve hours after the last flooding) I was fully prepared for the announcement that the flooding had returned; but on inquiry I was rejoiced to learn that the waters and not blood had come off—in fact, there was not a stain upon her linen—and that the liquor amnii had been discharged. On now making an examination, I was met by the funis, not merely a loop, but a mass which the hand could scarcely grasp. She had then no pain, but she had had during the evening some weak and distant indications of uterine action. The funis was very tense, and pulsated strongly; the head could be felt through the os, which was open to the size of half a crown, and very dilatable. The external parts were also relaxed. I endeavored to return the funis while she lay on her left side, but as fast as one portion passed up another came down. Determining to try the "postural method," she was placed on her knees and elbows, the pillows being removed, when, with the slightest possible pressure, the whole mass of funis passed at once into the uterus. I observed also in this, as on the subsequent attempts, that there was no tenseness of the funis, as if the present position had removed some cause of pressure or obstruction, but when in the ordinary obstetric position the cord was tense and resilient when touched. Finding that on withdrawing my hand, prolapse immediately took place, I determined to induce pain, hoping that the descent of the head would prevent its return. I gave her at intervals of ten minutes, three several doses of a full teaspoonful of Battley's liquor secalis. Strong pains followed the last dose. The postural treatment was then resumed, and the funis as readily replaced in the interval of pain as before, with the exception of a small knuckle, which seemed adhering near the cervix. The next pain brought it partially down, but on a third attempt, my hand being entirely within the vagina, the funis was passed beyond the head, which was now descending, and retained there with great ease. In another pain it slipped beyond my reach, and gave no further trouble; but still the little knuckle-like portion remained, and which I now discovered to be the placental extremity of the cord and the mass of placenta itself attached closely to the cervix. The patient was now allowed to take the ordinary position, and the child was born in fifteen minutes, strong and healthy.

This plan of treatment was originally proposed by Dr. Gaillard Thomas, of New York, in a paper published in the New York Medical Journal for March, 1858, and, although several years have elapsed since

Digitized by Google

that time, the method proposed does not seem either sufficiently known, or, if known, is not appreciated by the profession.

[This method has been twice successfully employed by Prof. Brickell. Though circulated through journals at the time of its announcement, the cases here excepted, are the first practical applications of the method reported, at least in any of the recent exchanges.—J. H.]

It seems very clear from the numerous methods proposed to remedy this complication, that no one of them can be depended upon for saving the child, as even in the ablest hands the mortality is fearfully great. Churchill states that practically the mortality is greater than in any other order of labor, more than half of the children in which the funis was prolapsed being lost. Collins lost 73 out of 97 cases. Clark 49 out of 66. I might extend this catalogue, but the fact is so universally admitted, whatever plan is adopted, that it will be unnecessary. Any suggestion, therefore, that holds out a prospect of greater success than has hitherto been attained, is deserving of more attention from the profession. The few published cases scarcely warrant a comparison being made between the result of the postural treatment and the numerous old methods. I feel, however, assured that when it shall come to be more generally known and recognized by the profession, the rate of mortality will be very materially lessened; besides this, the facility with which it may be accomplished is greatly in its favor, while the entire absence of all danger either to mother or child, is a matter of supreme importance. Dr. Thomas's rules are few and simple, and are applicable equally to cases where the membranes are entire as well as where they have been ruptured.

First, if the membranes are entire and the cord detected, he at once places the woman in position, and trusts to this for its return into the uterus, and uses no manual assistance.

Secondly, if the waters have escaped and left the funis below the head, he places the woman in position and pushes it up with the hand, then induces pain either by friction, or better by ergot, and if the presenting part should so occupy the pelvis as to prevent its return by the hand, he uses a gum elastic catheter and tape as a *porte-cordon;* and I would thirdly suggest, from the experience of the two reported cases, that the whole hand should be introduced into the vagina, and if the head interferes, push it up and carry the cord beyond the head, having previously induced pain by ergot.

He believes the cause of the persistence of the accident (whatever may have first produced it) to be mainly the slippery nature of the cord, and, secondly, the inclined plane offered by the uterus by which to roll out of its cavity; and his principle of treatment is to invert this plane, thus turning not only this plane, but the lubricity of the cord to our advantage. This he found could be readily accomplished by placing the woman on her knees and elbows with the head down upon the bed, thus inverting the uterine axis.—*Medical Times and Gazette.—Canada Medical Journal.*

Digitized by Google

Double Ovariotomy.—Polycystic Tumors of Immense Size.—Pedicles Severed with Ecraseur.—Recovery in Twenty-Eight Days: By THAD. S. UP DE GRAFE, M. D., of Elmira, N. Y.

[WE present this case (taken from the Medical and Surgical Reporter, Feb. 23d, 1867) as supplementary to the "Digest of Ovariotomy," published in the November and February numbers of this Journal. We do not cite it because of its extraordinary character—though it is the most formidable on record—but as illustrative of the value of the operation compared with other treatment, and because of the practical instruction it affords. As practitioners, we gather more from detail of such a case, than from an abstract treatise on the subject, however elaborate.—J. H.]

Mrs. A. C. Leach, of West Dresden, N. Y., the subject of the following operation, is 50 years of age, of a nervo-sanguineous temperament, of remarkably good health up to the time of the appearance of the tumor, and the mother of three healthy and bright children, the eldest a girl of 16, and two boys of 12 and 14.

She first complained of a "bearing down" in March, 1867, the symptoms being about the same as those accompanying prolapsus uteri. Soon after she discovered an enlargement in the right iliac region, accompanied with considerable pain in that locality and the right shoulder. She consulted a physician about this time, who informed her that she was suffering from "liver complaint," and directed his treatment with a view of relieving said difficulty. The treatment being of no avail, she consulted various other professional gentlemen, most of whom diagnosed hepatitis, for which she was treated up to April, 1863, during which time she had enlarged to the extent of a woman at the full period of pregnancy, and at times suffered from so much pain in the right iliac region as to render her bed-fast. About this time (April 1st, 1863) she visited Prof. Moore, of Rochester, who at once diagnosed a tumor on the right ovary, and advised paracentesis with a view of relieving the distressing symptoms then present.

She returned home and continued to enlarge gradually up to March 10th, 1866, when the pain in the right side became unendurable, and resolving to follow the advice of Dr. Moore, at once summoned Drs. Oliver and Smith, of Penn Yan, N. Y., who accordingly performed the operation of tapping, and succeeded in removing forty-three pounds of dark-colored fluid, resembling new cider in color and consistence, but containing numerous oil globules, and upon standing over night deposited a sediment of fibrine which was quite ropy, adhering to a stick when thrust into it. The evacuation of the contents of the tumor reduced the abdomen to its natural size.

Paracentesis so prostrated her that she was unable to rise in bed for two weeks, and four weeks had elapsed before she had gained sufficient strength to walk across the floor, and in less than six weeks she was larger than before tapping. After this time the abdomen enlarged very rapidly, she suffering much pain, which was now felt almost entirely in the left side, none remaining in the right as formerly. She could feel the outlines of a tumor in the left side, immediately below the last rib, which was very sensitive to the touch.

Digitized by Google

She was now visited by Drs. Smith and Sloan, of Penn Yan, who presented ovariotomy for her consideration, at the same time advising the operation, to which she eagerly assented.

I was accordingly summoned on October 1st. Found her in bed lying upon her right side, shoulders elevated, inspirations painful, with a sense of suffocation and considerable pain in the left iliac and lumbar regions. The distance about the person, on a line with the umbilicus, was fifty-seven inches. From the inferior extremity of the ensiform cartilage to the pubes twenty-seven inches, thus forming an unnatural protuberance startling to look upon. In consequence of the tremendous distension and tensity of the parts, it was impossible to detect any points of adhesion or the character of the tumor, as to whether it was mono or polycystic; but from the circumstances of the tapping having reduced her to her natural size, I was led to diagnose the former.

I stated to her the dangers of ovariotomy, and having heard her express a determination to have the operation performed, at once proceeded to the preparatory treatment. Ordered: ℞ tinct. ferri. chlor., f.℥ij., quiniæ sulph., ℈j., aquæ dist., f.℥iv., ♏. One teaspoonful to be taken three times a day. Directed that a cathartic should be given three days before the operation. The following was administered: ℞. pulv. rhei, gr. j., podophyllin, gr. iij., ♏., in the form of a pill, which acted briskly, and after which the patient was allowed no solid food, but was sustained upon broths, beef-tea, gruels, etc. The evening before the operation, a small dose of castor oil was given, which left the bowels perfectly free from accumulation. Ten days from the beginning of this treatment, accompanied by Dr. A. Rice, of Elmira, N. Y., Drs. B. F. Wagenseller, of Selin's Grove, Pa., Metcalfe, of Oswego, and Axtell, of Troy, Pa., I repaired to the house of the patient, prepared to operate. We found Drs. Smith, of Penn Yan, Sloan, from the vicinity, Post, of Lodi, and several other medical gentlemen anxious to witness the operation.

The patient was sitting in an arm-chair, "feeling pretty comfortable," and chatting gaily with her friends, and expressing a determination to "get well." The room was placed at a temperature of 80°, and chloroform administered by Dr. Aaron Rice, (on whose excellent management of the anæsthesia much of the success of the operation depends.) An incision was made from the umbilicus to within an inch of the pubes, the tumor presenting itself at the opening. I now inserted my hand between the tumor and the abdominal parietes, and at once came upon extensive adhesions seemingly throughout the entire extent of the tumor. These adhesions were very firm, requiring at some points all my strength to sever them. Copious hæmorrhage immediately ensued, and I was notified that the pulse was failing. Stimulants were administered by the attending physicians, while I at once proceeded to evacuate the cyst, as it was much too large to attempt to remove entire. A trocar was introduced and the fluid allowed to escape for the space of about ten minutes, when discovering that too much valuable time was thus being consumed, the canula was withdrawn and the puncture enlarged to an incision of about four inches, through which the contents of the tumor were discharged into a vessel held under the opening, while the hand was placed behind the tumor throwing it forward into the abdominal wound, thus preventing the escape of the fluid into the abdominal cavity. During this procedure the diaphragm was carefully supported by means of a bandage placed across the epigastric region, and pressure sustained

Digitized by Google

by the assistance of two of the medical gentlemen present. Two other tumors, more firm and inelastic, now exhibited themselves, and upon manipulating them they were found to be firmly adherent to the inferior margin of the right lobe of the liver, to the diaphragm, stomach, and left kidney. I therefore enlarged the incision in the abdomen to about six inches above the umbilicus, making now an opening of some sixteen inches in extent. I now carefully broke up the adhesions to the liver, gall-bladder, stomach, diaphragm, intestines, and kidney, using nothing but the fingers. Finally the pedicle was reached on the right side, and was found to be quite short, but five inches in width. The écraseur was applied and the pedicle severed, not one drop of blood following its use! Upon attempting to lift out the mass, still another pedicle was discovered upon the left side close to the uterus. This was severed in like manner, and the adhesions of still another tumor broken up from the uterus, bladder, and descending colon. The entire mass was now removed, when about one pint of coagulum was found in the pelvic cavity. This was removed with the hand, and the parts carefully sponged. The pedicle upon the right side was now examined, but no hæmorrhage presented itself. From the left pedicle, however, one small vessel was bleeding freely, (at a point where the scissors had been used to sever a firm attachment to the uterus.) This was ligated with a very delicate silken thread, cut close, and allowed to remain within the cavity.

No further hæmorrhage was found to exist, all having ceased the moment the incision was enlarged and the parts exposed to the air. The cavity was again carefully sponged, and the incision closed with eight silver-wire sutures passed through the peritoneum, and the same number of silken ones placed superficially. A four-tailed bandage was now applied, two of the ends being secured around the person, while the other two passed between the thighs, and were pinned to the main bandage at the pubes, thus securing a snugly fitting and unyielding compress. The patient was now removed from the operating table to the bed, and cloths moistened with hot water applied to the abdomen, while hot bricks were applied to the feet and about the body. McMunn's elixir of opium, thirty drops, was then administered, and the patient allowed to remain undisturbed.

The operation was completed in one hour, calculating from the time that the patient was fully under the influence of the anæsthesia until she was placed in bed.

The fluid removed weighed fifty-four pounds. The fibrinous portion of the tumor eighteen pounds, making in all seventy-two pounds. Thus was successfully removed the largest—if we mistake not—ovarian tumor of which we have any record.

One hour after the operation (one o'clock, P. M.) the pulse was at 120, pretty full, and the patient expressed herself as feeling better than she had for two years before. At two o'clock had some nausea, the effects of the chloroform. Brandy and elixir of opium administered at intervals. I left my patient at five o'clock, P. M., placing the after-treatment in the hands of Dr. Smith, under whose excellent care she gradually improved, almost without an unfavorable symptom. The doctor not having kept any notes, I am unable to give as full a report of the after-treatment as I would like.

The catheter was used three times a day for about ten days, after

Digitized by Google

which she voided urine without its assistance. On the twelfth day the bowels moved spontaneously. About the fifteenth day she complained of considerable pain in the lumbar region, which was caused by an accumulation of hardened fæces in the colon. Castor oil was given, together with an injection of one pint of warm water. This removed nearly two quarts of impacted fæces, of a very dark color and fœtid smell, after which her appetite and strength rapidly improved.

Her diet consisted of beef-tea and brandy for the first week. Afterwards she had chicken-broth and baked potato, and, as her digestion improved, beefsteak and stewed chicken were added to her bill of fare.

The interesting features connected with this case are, that, notwithstanding the terrible laceration of the peritoneum, not a single symptom of peritonitis presented itself. The long incision through the peritoneum, which afforded easy manipulation, hastened the termination of the operation; and while it exposed the viscera, liver, and delicate peritoneum to the action of the atmosphere, still no unfavorable symptoms resulted. Both ovaries being diseased, they, together with the broad ligaments, were excised close to the uterus, leaving that organ unsupported within the pelvic cavity, making it a matter of serious consideration with me, whether or not I had better apply the ecraseur to that likewise. Instead, however, I placed it in contact with the abraded surface of the left severed pedicle, to which it attached itself, and in which locality it can now be felt.

In twenty-eight days after the operation, Mrs. Leach was up and about her house, expressing herself as being "as well as ever."

The magnitude of the case, with its successful termination, is such as to give us renewed confidence in the operation of ovariotomy.

Case of Rupture of the Uterus: Reported by B. H. CATLIN, M. D., of Meriden, Conn.

MRS. ANN C., aged 40, was taken in labor with her seventh child, about ten o'clock, A. M., July 7, 1856. I was called about one P. M., and found her sitting up, in good spirits, with regular pains every four or five minutes. I anticipated no danger, having attended her in her six previous labors, which were perfectly natural and regular, though she always suffered more from strong pains than the majority of women. I soon made an examination, and found the first stage of labor completed—the head presenting in the first position. The labor progressed favorably, though not rapidly, till the head had passed the superior strait, when a very severe propulsive pain came on, which continued till the child was born, and even then there was no abatement of her suffering. I supposed, at the time, that the distress after delivery was from the shock to the system occasioned by such a violent pain and rapid delivery. According to my custom, in all cases of delivery, as soon as the child was put into the hands of the nurse, I placed my hand upon the abdomen, and found the uterus firmly contracted. I directed an at-

Digitized by Google

tendant to give the patient some camphor and water, while I took hold of the cord. In a few minutes the placenta was thrown off by the pains. As my patient obtained no relief from her suffering, I administered a full dose of morphia, followed by stimulants; but as there was no improvement, and she was sinking very rapidly, I examined first with the finger, then introduced my hand, which passed through a rupture of the uterus among the intestines. Her situation seemed now hopeless, but as it was a very unusual case, I requested her husband to call in my neighbor, Dr. E. W. Hatch, who made an examination. The patient never rallied, but died about thirty or forty minutes after delivery, and about four hours after I first saw her.

This is the only case of rupture of the uterus that has occurred in my own practice of over forty-one years. In the few cases I have heard of in our State the patients had died undelivered, or after the use of artificial means, and I was not aware at the time that any patient was ever delivered by the pains when a rupture occurred. After this I examined the cases reported by James D. Trask. M. D., in the fifteenth and thirty-second volumes of this Journal. Dr. Trask writes (vol. fifteen, p. 403): "Of 31 delivered by natural efforts, 20 died and 11 survived, and these include in both instances cases of rupture of the os in which the peritoneum was not involved." In the cases reported in the thirty-second volume, I have counted nine cases of natural delivery, making 40 cases in 418 reported.

My patient gave no sudden outcry, nor complained of any tearing sensation. The rupture was in the posterior part of the uterus near its connection with the vagina. I regret that we neglected to make a post-mortem examination. The patient was of a strumous habit; had a scrofulous tumor on the neck, but during her last pregnancy she had been unusually well. The child was born alive, but it was feeble, and died in forty-one hours.—*Am. Jour. Med. Sciences, Jan.*, 1867.

[This accident must have happened just as the head cleared the vulva, at which time the uterus, spurred on by a reflex impression originating in the distended perineum, reaches the intensity of action. That no part of the ovum escaped into the peritoneal sac, can be explained by the position of the rupture, together with the rigidity and thickness of the structures, at the moment of its occurrence. We do not remember ever having heard of a similar case; we have examined several authors and none of them, save the one quoted from, even mentions the unassisted extrusion of the child from a ruptured womb, involving the body of the organ.—EDS.]

Morbid Conditions of Spleen in Pregnant Women.

SIR J. Y. SIMPSON, at a meeting of the Obstetrical Society of Edinburgh (June 27, 1866) referred to three cases of fatal rupture of the

Digitized by Google

spleen, which had occurred respectively in the pregnant, parturient, and puerperal states. He pointed out the circumstance that, during pregnancy, there is often, if not generally, an increase of the white particles of the blood—or, in other words, a kind of normal or physiological leucocythemia. As in states of morbid leucocythemia, the spleen was often enlarged, so was it also occasionally in pregnancy. Perhaps it would be found in practice much more common than the silence of authors on the subject might lead medical men to suppose. It sometimes recurred in successive pregnancies. In one patient of his, the spleen became enlarged to a very marked degree in a series of successive pregnancies, and this splenic enlargement disappeared always after delivery. Her youngest child is now about ten years old, and during that time there has been no recurrence of the splenic hypertrophy in the mother. A certain amount of softening very frequently accompanies the hypertrophy of the spleen, and predisposes to the laceration of the organ under strong exertion and muscular effort, blows, etc. The first case of rupture of the spleen in a child-bearing mother which he saw, was a patient of Dr. Husband's. She began to show symptoms of fatal sinking shortly after premature labor set in, about the sixth or seventh month. On opening the body after death, the enlarged spleen was found lacerated, with effusion of blood into the peritoneal cavity. Shortly afterwards, a patient of Dr. Wilson's, who had been delivered a week or two before, after making some unusual muscular exertion, complained of abdominal pain and sinking, and died. Rupture of the spleen and effusion of blood were found on dissection. The late Dr. Cunningham, of Currie, delivered a patient in Edinburgh, using the forceps. He left very shortly afterwards, to catch the railway train. The patient sunk and died within an hour or two. An inspection of the body was ordered by the law authorities, when rupture of the spleen and consequent effusion of blood were found to be the immediate cause of death.

Dr. Burn stated that Sir James Simpson had seen a patient of his lately where the spleen was very much enlarged during pregnancy. The patient died soon after her confinement.

Mr. Furley mentioned one case of a similar kind, where the patient died one hour after delivery.

Dr. Charles, of Calcutta, said he had seen many cases of different kinds where the spleen during pregnancy became enlarged and indurated. In one case, the spleen of a male patient was ruptured from throwing himself suddenly back in defending a blow. At the post-mortem examination the spleen was found ruptured, and of a red currant jelly consistence. Such cases were common, even from false steps, or in going down stairs. He thought such accidents were more common in India than here.

Dr. Wilson mentioned a case of ruptured spleen, occurring shortly after delivery, which he had reported to the Medico-Chirurgical Society a number of years ago; and which he believes was reported in the Monthly Journal at the time.

Dr. Ritchie, of Derby, said he had seen cases of rupture of the spleen associated with bronchocele.

Dr. Keiller said that he generally found, in cases of splenic disease, that bleeding was difficult to stop, and he never advised leeching in such cases.

Dr. Sidey mentioned one case of enlarged spleen during pregnancy,

Digitized by Google

where rupture followed an act of overstretching, and the patient died. *Edinburgh Med. Journal, Sept.*, 1866.—*Am. Journal Medical Sciences, Jan.*, 1867.

Criminal Abortion.

THIS is the subject of a report submitted by Dr. T. A. Reamy, of Zanesville, to the Ohio State Medical Society, and published in the St. Louis Medical and Surgical Journal, for December. The importance of his remarks will not permit their abbreviation, we therefore give the article entire:

This subject is not introduced from choice. It is a painful duty which I cannot refrain from discharging. Six years ago one of the most acute and one of the ablest members of this Society, then Chairman of Committee on Obstetrics, when speaking in his report of the evil, made the following prediction: "The time is not far distant when children will be sacrificed among us with as little hesitation as among the Hindoos." That prediction seemed to me at the time it was uttered, as it doubtless did to many of you, an extravagant one. But six short years have almost brought its literal fulfillment. Great God! What a state of morals for a Christian people, boasting a high degree of civilization. In my correspondence upon this subject I have found considerable reticence among medical men; many are inclined to evade a direct answer. This grows out of the delicacy of the subject, doubtless. But from a very large verbal and written correspondence in this and other States, together with personal investigation and facts accumulated, I am convinced that we have become a nation of murderers. And the victims are innocent, helpless children! Things may as well be called by their proper names. This practice is much more prevalent in the cities than in the rural districts; nevertheless, even in the country to a frightful degree. The physician is consulted as to how pregnancy can be avoided; or if it has already occurred, how can it be got rid of. With as much coolness and business-like composure, and that by the fathers or the mothers, as would characterize a consultation with a gardener as to plucking weeds from flowers. I doubt whether there are a half dozen practitioners present to-day who have not been consulted within the past year repeatedly in such cases. "We have as many children as we want," "my health is so poor I cannot bear children," etc., are phrases familiar to every physician. And be it remembered, these applicants are not confined to the poor, the indigent, or the ignorant; they are from all classes. This is one of the most alarming features of the case. The mania to destroy has gone into every avenue of society. The lettered and unlettered, rich and poor, professed christian and sinner, throng in one great mass the bloody altars, and sacrifice their offspring.

The deity who presides at such an altar ought to be carved in brass, and a copy furnished to every household which has been, or is likely to be cursed with such worship. It ought to represent a woman in the act

Digitized by Google

of strangling an innocent, sweet-countenanced child; her features contorted with the heartless visage of her cruel purpose; and the second figure should represent her husband, or some lady friend, plugging her ears lest the cries of the child might move her to sympathy. Her eyes should be intently fixed upon an object in the distance, that she may not catch the countenance of the infant and behold in it the image of God, and thus be deterred from her bloody purpose. If a physician informs them when applied to, that he cannot consent to such a thing, that it is murder, he will quite likely be informed that if he will not some others will; and it is to be greatly feared others do. Women learn these things from each other; many of them follow it for themselves and friends. They will use knitting needles, whalebones, a catheter, or some other instrument—rupturing the membrane. And the practice is not confined to the first three months of pregnancy. So intent are they, often, that if success has not attended their efforts sooner, when quickening occurs, instead of having a mother's sympathy aroused, and solicitude for the welfare of her offspring, she is only reminded that she must be prompt in dispatching it before it is larger to give her trouble.

The bloody command of Pharaoh to the Hebrew midwives, that when they did the "office of midwife to the Hebrew women and saw them upon the stool, if it were a son they should kill him," has always called upon the head of that king our execrations; he has been held as a heartless monster. We have looked with horror upon the practice of the Romans in the dark ages destroying their offspring, both before and after birth, as portrayed by Juvenal in his Sixth Satire; and we have rejoiced as the mild influence of Christian civilization has controlled and enlightened the minds of the people and abolished this custom. We have wept over the heathen mother who throws her child into the Ganges as a sacrifice to her imaginary God; and we resolved to give liberally to the missionary fund that she might have the light of a better gospel. And we have made similar resolves as we read the accounts of the baby tamers in China and India. Pharaoh was a wicked and ambitious king, who had natural enmity against the Hebrews, and was jealous lest they who had been his slaves might become his conqueror. This bloody edict was therefore one of national policy. The Romans and Chinese were ignorant heathens, who knew but little of the claims of humanity, and nothing of the obligations of the Christian religion.

But what shall be said of Christian mothers murdering their offspring without cause and without conscience? And what of physicians who lend their influence and counsel in behalf of such deeds? This earth is far from being regenerated. The dark waters of the Ganges foam with the struggling of heathen infants offered in sacrifice; the bones of thousands of murdered children are bleaching at the base of the baby tamers in China. But in Christendom, yea, in our own beautiful Ohio, there prattle around the hearthstones of cottages and palaces, children who have dead infant brothers and sisters, hidden and unnamed, who were murdered by their parents' hand. What mockery for the voice of evening and morning prayer to be heard, asking God to bless and protect "Willie" and "Ellie," while from the same heart from which goes out the prayer, went out the determination to destroy an unborn child! In many instances the pages of the sacred volume are turned for the reading of the morning lesson by the very hand that so recently directed the weapon for destruction. Can God hear with favor the prayer that

Digitized by Google

goes up incensed with the blood of murdered innocence? There are but few communion boards in this or perhaps any other country, which have not among those who surround them at every season persons guilty of this crime.

But this subject is too revolting to contemplate. I must leave it. No doubt, some will think I have overdrawn it, or given too much time to it.

I know it is not overdrawn; and if not, too much importance cannot be attached to it. It is blighting the health of thousands of women; causing ulcerations, displacements, and inflammation of the uterus. In its secondary results, it is one of the most prolific sources of moral prostitution. It is with fearful rapidity prostituting woman from the noble and God-given embodiment of virtue, innocence and affection, which has and always should make her an object of adoration and tender care, to a cruel monster whose level is far below the brute. It is filling our countries with mothers who have either committed suicide and infanticide, or secured the services of a friend more skillful than themselves. I once attended a woman, wife of an intelligent, kind-hearted husband, in good circumstances, mother of three lovely children, a devoted and prominent member of a Christian church. She aborted, despite all my efforts to prevent it. She was over four months advanced. Grave symptoms supervened; purulent absorption was manifest. She died on the sixteenth day. An autopsy was had by myself and a medical friend. She had perforated the uterus very near the os with a wire which was in a male gum catheter, the wire having been thrust through the catheter in her violent efforts to destroy the fœtus. The veins throughout the whole system were filled with pus. She confessed to me, on the third day of her illness, that she had brought on the abortion in the way named. I attended her funeral; her minister preached her to the pure paradise of God. She had committed murder and suicide. The custom is making homes that ought to echo with the matchless music of prattling children, silent as the murderer's cave; the air that should be fragrant with the flowers of their planting and care, is loaded with the stench of detached and putrid ova. In short, the practice is eating as a cankering mildew at the very vitals of our holy christianity, and unless speedily checked, will damn us as individual communities and as a nation.

What can be done? I answer, much. Medical men, from their intimate relations to the families which they attend, and from their acknowledged acquaintance with the whole subject, can command respect for their counsels in these matters above all others. Let every honorable member of this Society, and of the entire profession, whenever consulted by a woman on this subject, candidly and patiently explain to her the nature of the crime she contemplates—set it before her in its true character.

The opinion has become prevalent among women, that if the child be destroyed before quickening, no sin attaches to the act; and that if the separation of the fœtus takes place after quickening, but before viability, though it be somewhat sinful, yet it does not amount to much. If they are counseled properly against such fallacies, they will generally desist at once. Medical men should inform them candidly and forcibly that such an act is murder at any stage of pregnancy. I am thoroughly convinced with Dr. Storer, of Boston, (Prize Essay) "that the employ-

Digitized by Google

ment, in the married relation, of any means whatever, for preventing conception, is but little else than legalized prostitution." Let no physician who claims or expects to claim respect from God or his fellowmen, be either directly or by advice, party to such an atrocity. And let every member of the profession who has already acted, or will in future act upon these suggestions, constitute himself a vigilance committee, to bring to justice and condign punishment any and every medical man in his community who degrades himself to such an office. Let us all refuse to subscribe for and receive at our firesides, newspapers, secular or religious, in whose columns appear advertisements of patent nostrums for "removing all irregularities, from whatever cause produced." "The proprietors would advise against women, who are in a certain condition, taking the medicine, etc., as miscarriage would occur, although, even then, there would be no danger." Much has been said, and well said, by the editor of the Medical and Surgical Reporter, Philadelphia, against the evils I have been trying to portray. This journal, an excellent one, should have our warmest commendation for its outspoken fearlessness in condemning this business. Our Western journals should also sound the alarm. Dr. Houghton, in an obstetric report made before the Wayne County Medical Society, during the year, speaks out also in words of bold rebuke. Let every conscientious physician speak out, and every medical journal in the land chronicle the evil. Thus can our profession come to the rescue, and signally co-operate with all other agencies of our holy christianity, in saving society from imminent, impending, physical, moral, and spiritual ruin.

NOTE.—Criminal prosecutions for abortions procured upon unmarried females for concealing shame, murder of the new born infant, by neglect or otherwise, for the same purposes, etc., must all cease, unless abortions among married women for convenience can be brought to an end. I can see no propriety in continuing any jurisprudence over the subject at all, unless the community is relieved of the demoralizing effects of this crime; it would soon be difficult to find a jury that would convict even in the clearest case.

A Case in which Ovariotomy was Twice Successfully Performed on the Same Patient: By T. SPENCER WELLS, F. R. C. S., Surgeon in Ordinary to Her Majesty's Household, and Surgeon to the Samaritan Hospital.

THE author commenced by alluding to three cases in which ovariotomy had been performed twice on the same patient. The first was by Dr. Atlee, of Philadelphia, sixteen years after the previous operation by Dr. Clay, of Manchester. The second was by the author, nine months after an operation by another surgeon. The third was by Dr. F. Bird, fourteen years after one of his own operations. The first case was successful. The second and third were not. The case now related is believed to be the first in which ovariotomy has been performed successfully

Digitized by Google

twice on one patient by the same surgeon. In this case the author removed the left ovary of an unmarried woman, twenty-four years of age, in February, 1865. The tumor weighed twenty-nine pounds. The right ovary was then healthy. The patient recovered, and remained well more than a year. But, in about fifteen months, disease began in the right ovary, and advanced so rapidly that ovariotomy was performed for the second time eighteen months and a half after the first operation, and a tumor, weighing eighteen pounds, was removed with complete success. A full account of both operations was given, with a description of the tumors removed; and some remarks were added upon the comparative frequency of disease in one or both ovaries, and upon the appearance of disease in one ovary after the other had been removed. The author shows that the right and left ovaries are found diseased with equal frequency; and that in from one-third to a half of the cases where the disease has gone on to its termination in death, *both* ovaries are diseased. But he ascertained that both ovaries are affected in much smaller proportion in the earlier stages of the disease. In the first 150 cases in which he performed ovariotomy he only removed both ovaries in seven, and in only three others was disease in an early stage suspected in the ovary not removed. In three the ovary not removed, but examined and found healthy, had become diseased afterwards. In two of these cases the disease was malignant. The rule appears to be established that after a successful ovariotomy the patient is restored to good health; and although there are occasional exceptions to this, it is satisfactory to know that if the remaining ovary should become diseased, the first operation need not add much to the difficulty of the second; and that of four cases in which a second ovariotomy has been performed two have proved successful.

Dr. Althaus related the case of a woman who had been successfully operated on five times for Cæsarean section. Dr. Althaus asked Mr. Wells whether he thought Cæsarean section or ovariotomy the more formidable operation.

Mr. Baker Brown said that the case just narrated was important in many points of view. First, the actual cautery was used to the pedicle; secondly, it showed the inconvenience of securing the old pedicle by a clamp; the old pedicle was adherent to the abdominal walls. It was this very adhesion of the pedicle to the abdominal wall which caused him to discontinue the use of the clamp and to substitute the actual cautery to the pedicle, as first applied by Prof. Clay, of Birmingham, to adhesions. Thirdly, it showed that the use of a clamp to the pedicle often resulted in its adhesion to the abdominal walls—a result which he had found extremely inconvenient in many cases. Mr. Brown said that whilst giving every credit to Dr. Clay, of Manchester, who had been our pioneer in this country, credit was due to Prof. Clay, of Birmingham, for the introduction of the actual cautery, and he (Mr. Brown) took credit to himself for adapting the actual cautery to the treatment of the pedicle; and by himself and others, as Mr. Samuel Hey, of Leeds, and Mr. Harper, it was found to be peculiarly successful. In his own hands, in less than two years, out of forty-one successive cases since he had used the actual cautery, he had had thirty-six recoveries and only five deaths, and in all those five he had been obliged to use ligatures.

Dr. Wright inquired of Mr. Baker Brown whether, in his experience of the application of the actual cautery, it had occurred that so soon as

Digitized by Google

the clamp was loosened the vessels of the pedicle burst out bleeding. Mr. Brown having answered in the affirmative, Dr. Wright remarked on the importance of this, since it appeared that when the hot iron was employed, there still remained the possible contingency of subsequent bleeding, notwithstanding its use.

Mr. Solly asked what statistics Mr. Brown had obtained, reckoning all cases.

Mr. Brown said that his results stood at present thus: Completed cases, 107, with 72 recoveries and 35 deaths; whilst of incompleted cases and partial extirpation, 15 cases, only three recovered, and 12 died; and of ten cases of exploratory incisions, where no further steps were taken, six recovered and four died; showing 132 cases in all, with 81 recoveries and 51 deaths. He had seen several cases where the second ovary was diseased with cystic growths, and had in most of them cut or burnt through the cysts, so as to empty them of their contents, and those cases did well. He was surprised to hear that in cases where actual cautery was used there had occurred, some weeks afterwards, peritonitis and death. In no one of his cases had there been any bad subsequent results; on the contrary, the patients were well in six or seven days, outside their beds, and made a rapid recovery—much quicker than by any other modes of operation. He had now abandoned the clamp outside the wound, and either used the actual cautery or the long ligature of Dr. Clay.

Mr. Philip Harper was very desirous to place upon record his own experience in the use of the actual cautery as a means of dividing the pedicle in ovariotomy. He had had many opportunities of observing its great value, for, in addition to the cases in which he had seen Mr. Baker Brown use it, he had resorted to it many times in his own practice, and the conclusion at which he had arrived was that in a large proportion of cases, it was an unfailing means of preventing hæmorrhage, and conduced to the rapid recovery of the patient. He was surprised to hear that Mr. Wells had met with two cases in which some time subsequently peritonitis had come on and was imputed to the use of the cautery. It was the first time such effects had been brought to his notice, and he must conclude that they were dependent upon some constitutional peculiarity or accidental circumstance, more probably the latter. There were certain points in the use of the cautery which must be prominently brought forward. The character of the pedicle was of great importance. In some cases it was large and thick, and its vessels, though numerous, were moderate in size. In these cases the cautery was always efficient. In other cases the pedicle was broad and thin, supplying a tumor of simple secondary multilocular character, and with vessels of medium size. Here the cautery was generally efficient. In other cases the tumor was extremely multilocular, colloid or adenoid in type, and the pedicle thin and small, with one or a couple of vessels' the size of the femoral or larger, and here the cautery would not be efficient However carefully used, upon the removal of the clamp sharp bleeding arose. In a lady upon whom Mr. Harper operated a year ago, the tumor was of this character, and the pedicle contained one large artery, which poured forth a large stream of blood upon the removal of the clamp. It was seized, a ligature passed around it, tied tightly; and the ends cut off closely. The pedicle was allowed to fall back into the pelvis. The lady made a rapid recovery, and was still in robust health.

Digitized by Google

In another case there was a large artery at each side of the pedicle, which it was necessary to tie separately, and recovery was perfect. Another important point was that in burning through the pedicle it must be done slowly and without any sawing or half-cutting movements. The clamp must be removed very slowly, and the cauterized surface should not be touched even with the fingers, but allowed quietly and gently to drop into the pelvis. High as was the value to be attached to the simple clamp in certain cases, he believed that the cautery would entirely supersede it in the great majority of cases, and that the more its value was tested, the greater would be the reliance placed upon it, the more rapid and satisfactory the recovery of the patient, and, most important of all, the death ratio after the operation would be materially lessened.

In reply to Mr. Spencer Wells, Mr. Harper said that he had twice tied vessels after the use of the cautery in eight cases.

Dr. Routh had been present now at over 200 cases of ovariotomy, complete or incomplete. He must say, therefore, speaking from no small experience, he believed no system was so good and so safe as the actual cautery. An attempt was made to disparage the actual cautery, because ligatures had to be used sometimes in addition. But ligatures were sometimes necessary even when the clamp was adopted. Moreover, what objection could be made to using a small silk or wire ligature where an artery in the pedicle was found very large? Where, however, the arteries were of the size of the radial or ulnar, the actual cautery quite sufficed; if as large as the femoral, it was safer to apply also a small ligature. No one would think of trusting to actual cautery in an artery as large as the femoral elsewhere. Again, in some cases, as in very fat subjects, it was inadmissible, the fat taking fire on the application of the red-hot iron. Mr. Wells had done well if by the clamp he managed to get his patients convalescent and able to enjoy a chop by the thirteenth or fourteenth day; but if the same result could be obtained on the sixth and seventh when the actual cautery was used, this was a better cure. He never saw or heard of any of those unfortunate results mentioned by Mr. Wells, where the actual cautery was used after apparent recovery, and all he could say was that, using the *argumentum ad hominem*, if he had a relative affected with ovarian disease he would insist on the operator using first the actual cautery. Besides, he could conceive that a woman on whom ovariotomy had been performed and the clamp used, might suffer in her pregnancy by the impediment in the way of its development offered by a pedicle adherent to the abdominal walls, and in Mr. Well's case the operation was rendered more difficult, he admitted by this very adherent pedicle, which would not have occurred if in the first ovariotomy he had used the actual cautery.

Mr. Spencer Wells, in reply to the question of Dr. Althaus, said that a second Cæsarean section performed on the same patient was not, like a second ovariotomy, more difficult or hazardous than the operation performed for the first time; on the contrary, it was a very much simpler proceeding. A Cæsarean section performed for the first time was a much more fatal operation than a first ovariotomy; but as the opening in the uterine wall often—perhaps generally when sutures are not used—remain unclosed, and the edges of the opening adhere to the abdominal wall, operators who had performed Cæsarean section twice or more on the same patient, found that they had little more to do than to cut

Digitized by Google

through the integument and take out the child without any second opening of the uterus. He considered the observations made by Mr. Harper as to the use of the cautery of great practical value. Of eight cases in which this surgeon had used the cautery to the pedicle, ligatures had also been required in two, or in one-fourth of the cases. This was about the proportion in which he (Mr. Wells) had also found the cautery ineffectual in completely suppressing hæmorrhage. He, nevertheless, thought it a valuable addition to our means of dealing with short thick pedicles, to which the clamp is not suited; but he very much preferred the clamp where a pedicle is small and long, so that its separation and all subsequent changes may go on outside the peritoneal cavity. He had seen two instances in which patients, after apparently recovering and going home three weeks after ovariotomy—the cautery having been used—had soon afterwards been attacked by peritonitis. One of these attacks had proved fatal, and Dr. Sutton, who examined the body, found very extensive adhesions of the intestines to each other, and to the remains of pedicles. It was true that all this might be quite unconnected with the use of the cautery, as chronic peritonitis had existed before the operation; but he could not help thinking that there was some such connexion, as he had seen unpleasant effects in other cases where the ligature had been used and left within the peritoneum. He had never seen any such ill effects when the pedicle had been secured by the clamp, or the extra-peritoneal method had been carried out either by the clamp or ligature. The objections raised to the clamp on the ground of any interference with pregnancy or parturition, must be imaginary or exaggerated, as ten of his patients had borne living children after ovariotomy—two of them had two children—and he had not heard of any unusual suffering or difficulty either during pregnancy or labor in any one of the cases.—*Lancet, February*, 1867.

Ovariotomy and Ovariotomists.

It is a constant theme of complaint amongst what are now called ovariotomists, that the operation for the extirpation of the ovary has been unjustly decried and systematically opposed. They attribute this suppo sition to mistaken views on the part of some, and to interested motives on the part of others. But those who have carefully considered the object will arrive at a very different conclusion, whilst they would admit that the causes above stated might have had some slight influence in obstructing the progress of the operation. The main cause, however, why ovariotomy has so long been unrecognised amongst the legitimate operations in surgery, is due to the conduct of the operators themselves. For a long period no reliable statistics respecting it were to be obtained; indeed, so much mystery surrounded the subject, that the real evils were magnified. Then came another phase in the history of this proceeding. Statistics of operations were published with unwonted zeal and precipitancy. Scarcely was a patient removed from the operating-table than the case was printed as successful. Errors in diagnosis and incomplete

Digitized by Google

operations were related with less candor and fairness than the importance of the subject demanded. Then came a controversy, fierce, personal, and somewhat unscrupulous, upon the part of the combatants. At length, after so much which is hardly creditable to the history of surgery, we seem to be arriving at definite conclusions in the matter. In the first place, there can be no doubt the diagnosis of ovarian disease has marvellously improved. The operation itself is performed with greater safety, especially with reference to the prevention of secondary hæmorrhage. These have concurred to place ovariotomy on a very different footing from what it formerly occupied. That the publicity given to the proceedings of ovariotomists has mainly contributed to this desirable result no one will doubt. There are still, however, some points respecting which greater accuracy is required. And these were well pointed out in the paper read before the Royal Medical and Chirurgical Society. Perhaps the most important of these is the duration of life after the operation, and the relative frequency with which both ovaries are diseased. Time will, no doubt, solve these problems as it has done the others.—*Lancet, February*, 1867.

The diagnostic value of the Retracted Nipple as a Symptom of Disease of the Breast,

Was the subject of a paper recently read before the Hunterian Society, by Dr. Thomas Bryant, of Guy's Hospital. The essay is based upon nine well-observed cases of various affections of the mammary gland, and from these the author draws the conclusions, that a retracted nipple is an occasional symptom in acute and chronic inflammation of the breast; that it is found in the cystic disease of the gland, as well as in the cancerous; in fact it is met with *in all diseases of the true gland, whether simple* or *malignant*. It is absent in the ordinary chronic mammary or adenoid tumors, simply because these tumors are not of the gland itself; and as a consequence, the nipple, with the gland-ducts are not interfered with. In what way then, it may be asked, is this retraction of the nipple generally brought about? It must depend upon some general or simple cause, as it is found under so many different conditions; for a retracted nipple may be described as an accidental symptom in the development of a tumor; it is the product of mechanical causes, and its presence is determined by the manner in which the gland is involved in the disease, rather than in the nature of the affection itself. Should any tumor, simple or malignant—should any abscess, chronic or acute—attack the centre of the mammary gland, a retracted nipple, in all probability, will be produced; for as the disease so placed will necessarily cause material separation of the gland-ducts, their extremities—terminating in the nipple—must be drawn upon, and, as a consequence a retracted nipple will be the result.

In an early stage of an infiltrating cancer of the organ, this symptom is one of occasional occurrence, the nipple being drawn toward the side of the gland, which may be involved. At a later stage of the disease

Digitized by Google

however, when the infiltration is more complete, the nipple may again project. In a central chronic abscess of the breast, the retracted nipple is equally common; and in the true cystic adenoceles, it may also be present. The explanation of the cause of this symptom in all of these cases is alike being purely mechanical, and in a measure accidental. *Medical, and Surgical Reporter February*, 1867.

Comparative Merits of Incision and Dilatation of the Mouth of the Womb in cases of Dysmenorrhœa.

Prof. D. Humphreys Storer read, in August last, a highly interesting paper on this subject before the Boston Society of Medical Improvement. The large experience and sound judgment of Prof. Storer not only entitle his opinions to a respectful consideration, but his conclusions to entire confidence, He says: "From a somewhat extensive employment of sponge-tents during the ten past years for the treatment of dysmenorrhœa and sterility, I have formed conclusions different from those of the gentlemen of whom I have spoken [Drs. Barnes, Baker Brown, Greenhalgh, and Sims]. I have not unfrequently been disappointed in the result hoped for. The local obstruction has almost always been overcome by the long-continued, preserving employment of the dilator; but the opened canal does not always remove the condition thought to depend upon its closure—dysmenorrhœa and sterility still remain. I have, however, never seen the ill effects spoken of from the employment of tents. I cannot recall a single instance where more than a few hours' inconvenience has been produced; and in such cases the expanded sponge, when removed, has proved to have been originally much larger than it was supposed to be—showing that he who employs these tents should be acquainted with their uncompressed dimensions. My experience has taught me, then, that these contractions, however firm they may be, may almost invariably be overcome. The physician need not feel that the part is undilatable because the application of three or five, or half a dozen tents does not overcome it; in a case occurring in my practice, about a year since, *eighteen* sponge-tents were introduced at intervals of two and three days before the canal was opened. My perseverance was rewarded by the perfect relief of the patient. I could point, were it necessary, to several cases where, after years of sterility, the sufferer has been relieved and borne children, and in the intervals of their childbearing have suffered no dysmenorrhœa. I have repeatedly seen cases of dysmenorrhœa remain relieved for years, and known no return. In a word, I have relied upon dilatation to relieve these affections, and whatever opinions may be advanced by others, so long as I feel we have a remedy from which we can confidently expect relief, and very rarely observe any injurious effects, I shall feel it my duty to employ it.

"That cases do occur where the difficulty *cannot* be removed by dilatation, there can be no question; but 'that incision is the only efficient and permanent remedy (in most cases) for dysmenorrhœa,' I unhesitatingly deny.

Digitized by Google

"Let us for a moment look at the method proposed. These who advocate it should of course be satisfied that it has superior claims over the means now employed. I have thought the ill effects produced by *distension* might be occasioned by want of care; but those arising from incision *may* follow the operation of the most skillful surgeon who advises it, when the metrotome cuts through the walls of the *inner os*, and Dr. Barnes states, to employ his own language, 'there is no doubt that the surgeon has actually cut through the substance of the uterus, and wounded the plexus of vessels outside; hence severe and dangerous hemorrhage has ensued, and inflammation of the peri-uterine tissues.' And even supposing the operation should be successfully performed, it is acknowledged by Dr Routh, one of his advocates, 'that such an amount of contraction frequently exists as to render it necessary to have a dilating substance worn for a considerable length of time to prevent its perfect occlusion;' and Dr. Williams observes that 'oftentimes no relief is afforded. He had seen a patient whose cervix uteri had been slit up both sides, forming two large protruding lips, without affording any relief to the sufferer.' Where the external os has been almost cartilaginous to the feel, I have overcome the obstruction with the hysterotome; but I have never attempted to divide the internal os. I cannot, however, recall the instance where it was required."—*American Journal of the Medical Sciences January*, 1867

On Extreme Surgical Tendencies of Uterine Pathologists; and on the Division of the Cervix Uteri: By Drs. E. J. Tilt, Henry Bennet, Head, Graily Hewitt, Routh, Barnes, and Mr. Baker Brown.

[The following discussion, at a meeting of the Obstetrical Society of London, embraces the opinions of some of our most eminent obstetric practitioners on modern surgical operations about the os and cervix uteri, and will be generally agreed with.]

Dr. Tilt deprecated the extreme surgical tendency that seemed to characterise the present epoch. He gave as a proof of this tendency the frequency with which operations have been discussed at Medical Societies, the unnecessary multiplication of surgical instruments, and the warmth with which their invention or modification was supported. He likewise noticed two books which have lately appeared: one, a very important work, by Dr. Marion Sims, in which constitutional means of curing diseases of women were almost completely ignored; and another, by Mr. I. B. Brown, in which it was recommended to cure hysteria, epilepsy, and insanity by amputation of the clitoris. Dr. Tilt stated that he had known the division of the cervix uteri to have been frequently performed or recommended in cases where he was able to pass the uterine sound, and he submitted that no practitioner was warranted in dividing the cervix either for sterility or dysmenorrhœa, when the cervical canal had that width; as microscopic animalculæ could find no difficulty in ascending where the uterine sound could pass. He alluded

Digitized by Google

to the difficulty of passing a sound into the virgin womb, which did not interfere with the frequency of conception, in young women, soon after marriage. The author's experience led him to believe that the utility of dividing the cervix uteri had been unintentionally exaggerated. There were no statistics to show that conception was frequent after the operation; and he had frequently been consulted by those who had been operated upon during the last ten years, and who had remained barren. Dr. Tilt argued that there was so great a tendency on the part of the divided surfaces of the cervix to reunite, that the operation was generally useless unless followed up by dilatation; and he thought that in the majority of cases of uterine stricture, dilatation was the safest and best way to relieve dysmenorrhœa and to facilitate conception. He wished the division of the cervix to be restricted to cases where the cervical canal was extremely narrow or the cervical wall was very hard, and to cases wherein dilatation had proved a failure, or where there was flooding from the uterine fibroids. He reserves his opinion respecting the value of the operation in cases of uterine displacement or of malformation; and deprecating the operation being resorted to as a kind of *pis aller* in those intractable forms of uterine diseases in which relapses depend either on a congenial unhealthy tendency of the organs of generation, or on some deeply rooted constitutional taint. Dr. Tilt mentioned that in three of his patients the operation had been performed without the knowledge of the patients or their friends, and he took occasion to remark that this did not accord with the usually 'received notions of medical ethics.'

Dr. Henry Bennet thought that Dr. Tilt deserved the thanks of the society and of the profession for the paper read that evening. Although for the last seven years ill health had kept him out of active practice, he had continued to take the liveliest interest in uterine pathology, and had made himself acquainted with all that had been written or said on the subject. As a result he was deeply impressed with the idea that the therapeutics of the uterine disease had taken of late too surgical a direction, and he thought, like Dr. Tilt, that this tendency required restraining, limiting, directing. After a seven years' absence from the debates of the society, he could not but feel that it was passing strange that he should have to rise as a conservative, and that in the very arena where he had many a time, in former days, defended progress, and where he had been opposed and stigmatized as a rash innovator. When he commenced practice in London twenty-three years ago, uterine therapeutics comprised little else but the treatment of cancers, tumors, prolapsus, and constitutional conditions. The most continued and irrational opposition met his efforts to establish more correct views—to demonstrate that physical means of investigation were as imperatively demanded in the study and treatment of diseases of the uterus as in those of diseases of the heart, lung, bladder, rectum, etc. By degrees, however, more reasonable ideas gained ground, and the senseless opposition to the progress of science was vanquished. Now it had entirely ceased, and had become mere remembrance of the past. Indeed, as was stated by Dr. Tilt, the danger rather appeared to be in going too far the other way, and interfering too much. This seemed probable when a recent surgical work on female diseases, written by a clever, experienced laborious American surgeon, his friend, Dr. Marion Sims, proposed division of the cervix uteri on both sides, down to its vaginal attachments, as a remedy

Digitized by Google

for all kinds of morbid conditions, for various deviations, and for sterility. Indeed, the Doctor, in one page, stated that he and his colleague in the Female Hospital at New York performed this operation 500 times in two years! Again, many recent writers and operators seemed imbued with the idea that the passage through the cervical canal to the cavity of the uterus ought to be what might be termed, metaphorically, as open "as a carriage door," constantly finding stricture therein, for which they operate by ruthless divisions, if it is not so. He (Dr. Bennet) believed that this view was founded in error, and that the greater part of these cutting operations were not in any respect called for or necessary. He believed also that this error would not be so constantly made were his discovery of a sphincter at the os internum recollected or recognized. The sphincter was a vital contraction of the circular fibres of the cervix at the os internum, similar in function to the sphincters which closed other cavities—the stomach, rectum, bladder. When the cold uterine sound reached it, it contracted, and impeded its entrance into the uterine cavity, and a stricture was declared to exist. A wax bougie, No. 4 or 5, on the contrary, its extremity warmed by the hand, and slightly curved to the shape he had described as that of the uterine passages, generally entered with ease. The patent condition of the cervical passages which these authors appear to consider necessary for conception was not natural, and certainly not necessary for the entrance of microscopic spermatozoa. It must not be forgotten either, in treating of sterility, that in England one married woman in six is sterile; in America, according to Dr. Marion Sims, one in eight. The causes of sterility were very numerous, and were not to be removed merely by cutting a royal road for the spermatozoa. Moreover, these divisions of the cervix healed up, and in a few months the narrowed condition was as bad or worse than ever in most cases. Twenty years ago, at Sir James Simpson's instigation, he operated in many cases, and all but abandoned the operation on account of these relapses. Since then he had generally used very small sponges if he wished to dilate, and had never once had an accident. The attacks of inflammation that had occurred in the hands of others had no doubt been caused by the attempted dilatation of inflamed tissues. The cervical canal ought to be perfectly sound when it was interfered with. In conclusion, he repeated that he quite agreed with Dr. Tilt that the uterus is now-a-days too frequently interfered with surgically, and that the indications for operations required better defining.

Mr. Baker Brown said he thought the paper was brought forward at a most appropriate time, for he perfectly agreed with the author and with the observation of Dr. Henry Bennet that operations upon the cervix uteri were performed too frequently, and without proper regard to preparatory and subsequent treatment. He was glad to have the opportunity of stating before the Society, in the strongest language, his reprehension of the rashness with which this operation was performed in both the out-patients' department of hospitals and the consulting rooms of the operator. He had always taught that the operation of dividing the os and cervix uteri was one of great danger; and although he had performed it a vast number of times, he had never done so without careful preparatory treatment, and the most absolute rest for two or three weeks after the operation. He thought the danger was also increased by the frequent division of the internal os. For his own part, in all

Digitized by Google

cases of flexious, he simply divided the cervix up to, but not through, the internal os; but in all cases of uterine hæmorrhage or intra-uterine fibroid tumors, he then carried his incision through the internal os. In all cases, immediately after operation, he plugged with oiled lint, and took every precaution to prevent the admission of atmospheric air. He believed the neglect of these precautions would generally account for the untoward results which so frequently followed the operation. He could confirm all that Dr. Bennet said as to the opposition and persecution he had met with in reference to his treatment of uterine diseases; and when he reflected how triumphantly Dr. Bennet had overcome all his opponents by the truth of his practice, he (Mr. Brown) felt consoled for the opposition he received for publishing the results of his experience on a subject of which he has yet confessed himself to be but a learner. But as he had always through a long professional career, immediately published any innovation which he had believed to be practically useful, so he would continue unto the end, feeling sure that the majority of the profession would always honestly investigate anything which he might place before them.

Dr. Head was of opinion that the expression "stricture of the os uteri" demanded a clearer pathological definition. He never had had the opportunity of seeing after death a stricture of any portion of the cervical canal, and thought the specimens must be extremely rare. He believed that cases of coarctation of the os uteri internum, not dependent upon organic diseases, or deviations of the uterus from its normal axis, may be attributable very frequently to spasm of the muscular wall of the uterus, especially at the orificial zone. Irritation acting upon the lining membrane of the uterus or cervix reflects itself to the muscular apparatus of the uterus much as occurs in cystitis. He concurred with Dr. Tilt in the belief that in numerous cases operative interference had been premature, and that we should hesitate before we appeal to the knife; indeed, that it should be the last resource, and only employed after all constitutional and local measures had been found utterly inefficacious. He (Dr. Head) had lately contrived an apparatus, by means of which the vapor of chloroform unmixed with air can be passed into the cervical and uterine cavities, and had found chloroform vapor thus injected a remedy which was likely to afford considerable relief in cases of neuralgic dysmenorrhœa.

Dr. Graily Hewitt believed with Dr. Tilt that the operation of incision of the cervix uteri was too frequently, and therefore unnecessarily, practiced. He differed from Dr. Tilt as to the indications for the operation. The uterine sound could frequently be introduced with a little patience in cases where the cervix was for menstruation purposes virtually strictured. He alluded, particularly, to cases, such as were by no means infrequent, where the canal was distorted and sinuous—a condition arising from thickening of the tissues of the cervix. The mucous membrane might be thickened also; but the chief condition was the irregular hypertrophy of the cervix itself. Then, again, he thought Dr. Tilt attributed too little importance to the effect of the presence of small fibroid tumors in determining flexions and consequent virtual stricture of the cervical canal. He believed many cases of cervical distortion and narrowing could only be dealt with effectually by means of a cutting operation; but the indiscriminate application of the operation was to be strongly deprecated.

Digitized by Google

Dr. Routh said the discussion proved how little the profession was agreed as to either the anatomy or pathology of stricture of the uterine canal. Anatomically, Dr. Savage did not admit a special sphincter at the internal os. Besides, did not circular fibres abound everywhere in the cervix? Then as to the seat of stricture, it was strange to find eminent men—accoucheurs—fixing stricture almost invariably at the external os; whilst others, quite as eminent, place it at the internal os. Then, again, was it to be said the uterine cervical cavity was never to be cut except in cases of stricture?—and could not the depth of the uterine incision be regulated according to the case? In chemosis of the eye, who could deny the advantage of relieving the congestion by incision? So in uterine disease a mucous lining might be so congested as to require scarification. The hysterotome effected this most satisfactorily. In parenchymatous uterine congestion itself it also was most beneficial. In conclusion, he could not allow physician-accoucheurs to remain under the stigma put upon them. Obstetric medicine was essentially surgical; and an accoucheur only proved his skill in acting surgically when prompt relief would follow, instead of acting medicinally, when cure would be thereby made very tardy, or not occur at all.

Dr. Barnes expressed his gratification at seeing again amongst them, one who had rendered such eminent services to obstetric science as Dr. Bennet. Referring to his memoirs on dysmenorrhœa, and allied affections depending upon a peculiar conoid form of the cervix uteri with minute os externum, the President reminded Dr. Bennet that he had there quoted and adopted Dr. Bennet's views as to the os uteri internum. He believed that it was very rarely the seat of stricture, or the source of difficulties requiring division. All his experiences still pointed to the opinion expressed in that memoir, that the os externum was the seat of trouble. And when the peculiar formation which he had described existed, the consequences were very often severe, and even dangerous. He had seen retro-uterine hæmatocele caused by it, and had known examples of young girls dying in consequence. It was absurd to rely upon medicines, or, indeed, upon anything short of division of the os externum in such cases. As performed by him, the operation had always been safe. Speedy relief followed, and that in many cases which had undergone every other kind of treatment for years before. These were cases for surgical treatment.—*Lancet, August* 25, 1866, p. 209.

Placenta Prævia.

Editor Lancet—Sir: I sent you the particulars of a case of placental presentation, which I attended for a neighboring practitioner, under somewhat unfavorable circumstances, having my right hand and arm in a sling, both very painful and rendered useless by an accident. Upon questioning the attendants of my patient I ascertained that she had for three or more weeks experienced considerable losses of blood at intervals. Since labor had commenced the quantity had been greater in direct proportion to the severity of the pains.

Digitized by Google

Upon making an examination I discovered clots in the vagina, which I at once removed, and found the os uteri of the size of a half-crown piece, thin, somewhat rigid, and unyielding. My suspicions being aroused by these symptoms, I lost no time in passing my finger through the os, and there, as I was led to expect, I found the placenta attached entirely around it. The pains were regular, coming on at intevals of about ten minutes, but very feeble, and apparently making no impression upon the dilatability of the mouth of the womb. As distance assured me that I could not obtain professional assistance for some time, I proceeded at once to act for myself alone, and detached the placenta from its connexion with the uterus, passing my fingers in the shape of a cone through the os, and using gentle but continuous pressure, which I increased on the advent of a pain. The plan answered admirably, furnishing me at the same time with a dilator and an efficient plug. Within a short time the woman rallied much from the loss she had sustained; the os uteri had greatly lost its rigidity, and become dilatable; and within an hour I was enabled not only to detect a head presentation, but to pass my hand into the uterus, grasp the feet, turn, and deliver, the passage of the head being unusually slow and troublesome. The operation of turning caused the expulsion of the placenta. I administered a dose of opium, and, when she appeared rallied, left her to the care of others. I did not see her again, but heard that within ten days of her confinement she had, contrary to the express wishes of her medical attendant, gone down stairs.—*London Lancet.*

Clitoridectomy.

At the Obstetrical Society on Wednesday evening last, a more than usually lively discussion followed the reading of a paper by Dr. Tanner, "On Excision of the Clitoris as a Cure for Hysteria." It would be difficult indeed to give an idea of the remarkably bold manner in which a peculiarly delicate subject was handled, and the little that was left to the imagination of those who listened to the discussion. Even the winter of life failed for once to command the respect which is ordinarily considered its due, and the habits of sundry ladies more than seventy years old were expatiated upon in a way to prove that, although age may induce continence, it is not necessarily accompanied by chastity. The current of opinion certainly ran strongly against Mr. Baker Brown's operation. Member after member rose to second his experience of the utter failure of the proceeding in arresting, except whilst the wound was unhealed and the patent restrained, the vicious habit which led to its performance. A very few instances were noted in which improvement appeared to follow, but no satisfactory evidence was forthcoming that this was of a permanent character. On the whole, the remarks were temperate and to the point, and there seemed generally a disposition to allow that Mr. Brown, whilst doubtless mistaken in his premises, was at least genuine in his opinion and open in his mode of proceeding. But there were not wanting those who protested with considerable indignation against a mutilation which it seemed had often been performed

Digitized by Google

without the knowledge or consent of the patient or her friends; which at least in one case (and this was allowed by Mr. Brown himself), had been inflicted upon a sufferer from spinal disease, since dead, under a mistake in diagnosis; and which confessedly required, in order to its success, such a system of moral and physical restraint as would seem to render any operation at the least necessary. Whilst we cannot but acknowledge that Mr. Brown, defended himself with much spirit and no little skill in fence against the attacks which met him from every part of a crowded room, we are sure that, in a subject which excites such strong prejudice, something much more convincing than general assertions of success after indefinite intervals, or skilful appeals *ad justitiam*, will be required ere the profession will feel disposed to imitate a proceeding which if it be useless is a lamentable mistake, and if it be unnecessary is a cruel outrage.—*The London Lancet.*

Fatty Degeneration of the Placenta; Successive Miscarriages.—Dr. J. P. Reynolds.

Q., a strong, well-made American woman, thirty-three years old, was delivered of a dead male child, about eight months advanced, on the 7th instant. The woman had had no previous illness. The only child of a former marriage is now living. She was married to her present husband six years and a half ago. Since that time she has had five confinements—at six and a half months, once, at seven months, twice, and at the term, in July of last year. The last-named child lived two hours, and then died without known cause; the earlier children were all stillborn. One month before the first labor she had received a severe blow upon the abdomen.

Until the present time she has employed a midwife, and cannot state whether there was at the other births any disease of the placenta.

The first child and the second were thought to show evidence to being some time dead. There had been irregular uterine pains for several days before delivery. Three days previously to it, the fœtal movements, which had been growing feeble, ceased. No distinct proof of life could be obtained by auscultation. The head presented in the first position. The pains were efficient, the labor rapid. The dependent portions of the fœtus, when expelled, were of a bluish color. There was no pulsation in any part of the cord. The child was well developed, measured seventeen inches, and the skin everywhere in a sound condition. All efforts at resuscitation failed.—*Boston Medical and Surgical Journal.*

Digitized by Google

MEDICAL.

On Pyæmia: By WILLIAM S. SAVORY, F. R. S., Assistant-Surgeon to St. Bartholomew's Hospital, and Lecturer on Physiology in the Medical School.

IT is now generally accepted as an established fact that the blood may be poisoned, not only by visible and palpable substances introduced through the stomach or other channels, as in the case of poisons commonly so called, whether mineral, vegetable, or animal; but also by more subtle matters which elude our senses and are recognized only by their effects, as in the case of fevers.

And surgeons have long acknowledged that the blood may be poisoned by the introduction of matters into it, either from another body, whether living or dead—as for instance, in glanders and dissection-wounds,—or from an unhealthy wound or diseased part of the body itself.

In the case of blood-poisoning by some morbid material which eludes our senses, it must be admitted that our ideas have been always vague and obscure. The conviction that some material poison is operative in these cases is derived partly from observation of the effects produced, and the well-established relation of these to certain anteeedent conditions which we call exposure to infection, and partly from general analogy in the relation of cause and effect here, to that which obtains in the case of poisons which are visible and palpable, which we can examine and analyze.

If a disease be really infectious or contagious, catching as people say, there must be, it would seem, some *materies morbi*, some matter which is capable of transference. Excluding, of course, from consideration the propagation of such a disease as hysteria, in which, by the force of example, this morbid state in one person may provoke an outbreak in another, we cannot, I think, conceive the communication of disease from one person to another without assuming the existance of some morbid material. We cannot, I think, conceive how any disease which consists only in a perversion of the normal forces, or in an alteration of any normal structure, could be transferred from one person to another. So again, we can see no good reason why a contagious or an infectious disease may not, under favorable conditions, become epidemic; but an epidemic disease may not be, necessarily, communicable, for we may believe it to be produced by certain conditions to which a number of persons are simultaneously subjected, without assuming the existence of any morbid matter whatever.

Of course, in many instances opinions differ concerning the existence or presence of a material poison—in rheumatism, for example, and in some forms of cutaneous eruption,—but excluding doubtful illustrations, there are many others left. For example, doctors are tolerably well agreed that a material poison of a definite nature, introduced from without, is at work in small-pox and syphilis

On the nature of the poisons which produce what are called zymotic diseases we can at present only speculate. There is every reason to refer them to the organic kingdom; and whatever differences they may present among themselves—and that they are various, seems shown by their effects,—they present these great features in common; they effect

Digitized by Google

changes in the blood during a period of what is termed incubation, whereby they are themselves abundantly multiplied or reproduced. By this they are distinguished as a class from all others.

The effects of most poisons, as those furnished by the mineral kingdom, vary generally as the dose; but this cannot be said of all, of some animal poisons. So far as we know, the minuteness of the dose of these offer no guarantee that the effects produced will be proportionately mild. These latter then must have some mode of action beyond the former. Thus the poison may be either capable of reproduction in the blood, as those which produce zymotic diseases, or at all events it must be capable of exciting changes in the blood in a different way and of a different kind from those produced by mineral poisons. The effects, for example, of the minute quantity of animal poison introduced through a puncture in dissecting cannot be explained by any mode of operation such as we may imagine mineral poisons to possess.

Now with regard to the poison exciting pyæmia as it commonly appears after injuries and operations, although, so far as clinical observation goes, whatever indications there may be, there is no clear evidence that the effects vary as the dose, yet in experiments upon animals the quantity of putrid matter or pus injected has a manifest and most important influence upon the result. Concerning these animal poisons, however, the question, What influence has the mere quantity of poison introduced upon the result? can never be answered while we are ignorant of the actual nature of the poison or poisons which act, of their mode or operation, and of the extent to which their action may be qualified by different conditions of the system.

Dead and decomposing animal matter is unquestionably more akin in its operation to inorganic and vegetable poisons than to those which provoke zymotic diseases. Although the first and last present many features in common, such as the general symptoms they produce and the individual organs they affect and through which they are eliminated, and although the poisons in each case differ among themselves, both in character, such as volatility, and action, such as local determination, there is no evidence whatever that any dead and decomposing animal matter is ever multiplied or reproduced in the blood, or effects such changes in it that the system is henceforth no longer susceptible of its influence.

Under the title, poisoning of the blood, there may be arranged a large and most important class of diseases. In the first place may come *inorganic mineral poisons*, whether solid, fluid, or gaseous, introduced from without, and passing in through either the digestive or respiratory apparatus. Such, for example, are arsenic, prussic acid, and sulphuretted hydrogen.

Next, of organic poisons, are *the vegetable*, introduced from without, and passing in like the former. Such, for example, are strychnia and ipecacuanha.

The act of these is, as the rule, in proportion to the dose.

Then of organic poisons are the *animal*. These may be introduced from without, and passing in through the stomach, as the flesh of animals under certain conditions.

Or they may be introduced—as they usually are—through wounds or abrasions, or perhaps through mucous membrane, or even sound skin; as the poison of dissection-wounds; of serpents and insects; of gonorrhœa and syphilis.

Digitized by Google

Of these poisons, some have both a peculiar local and a constitutional action; as the poison of syphilis, and that which produces the so-called malignant pustule.

Some organic poisons, whether they be classified as vegetable or animal, which are introduced from without, after passing in, perhaps usually through the respiratory apparatus, are capable of reproduction in the blood, having a period of incubation; as the poison of zymotic diseases.

But animal poisons may be formed within the body itself, and pass into the blood; as that which produces pyæmia.

The symptoms of pyæmia may thus be enumerated:—It is generally ushered in by rigors, which are perhaps frequently repeated and sometimes severe. These are followed, often almost immediately, by profuse sweating and a very rapid pulse. Sometimes there is rather sudden and considerable increase of temperature. Then come restlessness, anxiety, depression of spirit, and marked failure of power. There is often a sense of weight at the præcordia, with frequent hiccough, sighing, and perhaps moaning. The pulse increases in rapidity, and at the same time becomes small and feeble, and the breathing hurried and oppressed. The patient lies bathed in perspiration, which is sometimes accompanied by miliary vesicles scattered over the chest and adjacent parts. The temperature of the surface varies much from time to time. The skin is at first sallow, and gradually becomes yellow. The urine is scanty and high-colored.

The tongue for a time may remain clean, but is usually from the first tremulous. There are often, soon after, vomiting and perhaps diarrhœa; occasionally hæmorrhage from the bowels. Then the general restlessness and deep anxiety, expressed in the pinched and haggard countenance, increase. The aspect is sometimes wild, oftener dull, vacant, and impassive. As the disease advances, the patient becomes incoherent, and there is low muttering delirium, but from this, at first, he rallies when addressed. The prostration grows extreme. The features become more shrunken; the skin more yellow. Pustules or petechiæ, or patches of congestion or of erratic erysipelas, sometimes appear. Often, too, a peculiar odor is exhaled from the body. There is a running flickering, or imperceptible pulse; a dry, brown, or black tongue, with sordes on the lips and gums; often subsultus tendinum, and then death.

Coincidently with the advent of the general symptoms, the character of the wound, if there be one, often suddenly changes. The healing process is abruptly stopped. The surface becomes pale and glazed, the granulations shrink and become dry, the soft parts flaccid, and the discharge almost ceases, or becomes thin, watery sanious, or fetid.

These changes are very soon followed by other local symptoms. Usually the best marked are sudden tenderness, with very rapid swelling of one or two or more, sometimes of most of the joints, soon followed by a blush over the surface. Before long there is clear evidence of distinct collections of fluid. Pus, under these circumstances, is usually poured forth into the joints with extraordinary rapidity, and although this is often accompanied with much local distress, yet not unfrequently it will accumulate so insidiously that its presence, especially in the deeper joints, is not suspected during life. But although it very commonly happens in the case of the joints which are deeply placed that there are no signs of any local disturbance while they remain quite at rest and are not touched, yet the most acute sensibility will be evinced upon the slightest attempt at motion, or the least pressure.

Digitized by Google

Such are the symptoms collectively which are usually present in pyæmia, but one or more of them may be absent. Even the rigors may be wanting. But the rigors, the profuse perspiration, the rapid pulse, and the increasing debility quickly running on into extreme exhaustion and collapse, are the salient and characteristic features of pyæmia.

The diagnosis of pyæmia at its outset, after an operation or accident, is often assisted by noting the period after the injury at which the earliest symptoms supervene. Rigors, for example, occuring within a very few hours, are not usually so significant of mischief as those which occur after the lapse of a day or two.

The disease with which, perhaps, pyæmia is most likely to be confounded, especially at the ontset, is acute rheumatism. The fever, sometimes ushered in by well-marked rigors, the rapid pulse, the profuse sweating, and, above all, the pain and tenderness of joints, with often rapidly supervening pericarditis, are obvious characters of the latter affection. For a while, indeed, in some cases, the diagnosis may be doubtful: but as the mischief advances, all doubt is usually cleared up. The typhoid aspect which a case of pyæmia so soon assumes, the sudden and excessive prostration, to say nothing of the distinct evidence of abscesses in various parts if life be sufficiently prolonged, are characters which can hardly be misinterpreted. It must be confessed, however, that in some instances difficulty of diagnosis may remain throughout. I cannot help believing that in years gone by, when there was no distinct recognition of the pathological condition now unfortunately called pyæmia, many cases of this disease were regarded and recorded as cases of rheumatic fever; and I think that even in the present day one could point to some examples of the converse error—to cases of acute rheumatism which have been recorded as cases of pyæmia.

The difficulty of diagnosis is naturally greatest at the commencement, and, as a rule, disappears as the disease advances. Perhaps at first our opinion will be best guided by the circumstance under which the malady appears. The previous existences of a wound, or of some local mischief, is a most important circumstance. As a very common rule, in pyæmia the general disturbance is preceded by some local mischief which must at least have attracted attention. When pyæmia occurs without any external wound it is most frequently found in connexion with acute necrosis, especially in young subjects. Then again in rheumatism pain in the joints is often among the very first symptoms, whereas in pyæmia, as the rule there is an interval to be observed between the constitutional disturbance and depression and the outbreak of local symptoms.

In a word, if during the progress of a wound or local injury, there suddenly occur well-marked rigors and profuse sweating, with great rapidity of pulse, and these are quickly followed by evident prostration, there is but too much reason to suspect that the blood has become poisoned; and there can be but little room for doubt when signs of articular effusion supervene.

The importance of a correct diagnosis is, of course, most pressing in acute cases. In chronic cases there may be also difficulty, but we have more time to watch. Pain and tenderness in different joints successively, with disturbance of the general health, are common to both affections, and sometimes the doubt is only cleared up by the occurrence of sup-

as t.
rhœu

Digitized by Google

puration. But here again the previous existence of some local mischief is a most important consideration. In these cases, as in others, the mildest are the most obscure.

Next to rheumatic fever, perhaps typhus and typhoid fevers are the diseases most likely for a while to be confounded with pyæmia. As an illustration of this, see the *Medical Times and Gazette* of March 19th, 1864, in which a case of pyæmia simulating enteric fever has been reported by Dr. Murchison.

And one can understand, in a measure, why the symptons of the disease above mentioned correspond so closely to those of pyæmia For the symptoms of all those diseases, at least the earlier ones, may be described as the result of constitutional irritation provoked by the presence of a poison or of some deleterious substance in the blood.

After death from pyæmia, are disclosed the local effects produced by the blood-poisoning, and these changes, which have been wrought in the several organs and tissues, constitute what has been called its morbid anatomy. For the blood, which is primarily and most profoundly affected, does not afford, to ordinary observation, any such striking evidence of the changes it has undergone. Yet sometimes, as in the worst and most rapidly fatal cases, where there has not been time for the local lesions to appear, the direct action of the poison upon the blood itself is shown plainly enough in the altered character which the blood presents after death. In these cases the blood is found unnaturally dark and fluid, with few, large, black, soft, and imperfectly formed clots. Its power of coagulation is evidently much impaired. Such loose clots as are found possess hardly any power of contraction, and the serum which escapes is unnaturally colored and turbid. This blood very soon becomes putrid. Indeed in extreme cases it may be said to be putrid at the time of death; for, however soon after the body is examined, there is evidence from its odor and the changes which the blood and soft tissues—as the spleen and other viscera, and often the muscles generally—present, of rapidly advancing decomposition. They may truly be described as already rotten.

The local effects may be thus described.

In various organs, spots and patches of congestion, more or less intense, varying from mere distension of the blood-vessels to complete stagnation. The smaller of these—the spots—are, for the most part, well defined and regular in shape, with usually a circular outline upon section. They are of a dark-red or livid color, sometimes slightly raised, and often indurated. In the larger patches all these characters are usually less pronounced. The color is less intense, being generally of a more dusky hue, and less defined.

The exact condition of parts in the spots and blotches which first are formed is an interesting subject of inquiry. The term "ecchymosis" is commonly applied to those spots, but it does not appear that usually there is any evidence of actual rupture or extravasation. A careful examination of these spots with the naked eye and lenses shows that there is intense congestion and even stagnation in the focus of the mischief, with perhaps subsequent coagulations and staining of the surrounding tissues from exudation of coloring matter; but there is no evidence, except in extreme cases, of actual extravasation of blood. Hence the term ecchymosis, thus applied, is not always strictly correct. The sequence of phenomena sketched above is indeed what might have been

Digitized by Google

expected. One can see no reason why any rupture of the vessels should ordinarily occur.

In the neighborhood of these congestions, and elsewhere the organs are often infiltrated with effused serum.

Collections of pus in different stages of formation and change, varying in size from mere purulent points to large abscesses yielding several ounces of pus; sometimes circumscribed and bounded by well-defined walls; at other times so diffused as to appear infiltrated among the tissues.

These secondary abscesses of pyæmia are by no means always simple collections of pure pus. Not only does the pus itself vary in quality, and present all degrees of consistency, from a thin sanious fluid with semi-solid flakes to a thick uniform glutinous substance, but it is often mingled with more or less lymph, which is either tolerably tough and cohesive, or soft, even fluid, with firmer shreds. At other times the whole collection has the character of softening tubercle. Still more rarely, it is throughout of a rust color, tinted with blood.

Yet I think there can be little doubt that, as the rule, these purulent collections, when rapidly produced, consist of well-formed pus. For by its physical and other characters, both to the naked eye and to the microscope, the matter cannot usually be distinguished from that of any ordinary acute abscess. It seems, indeed, as if the character of these collections, in this respect, was mainly influenced by their rate of formation, and the time which subsequently elapses before they are examined.

The relations of the spots and patches of congestion to the abscesses has been clearly shown. They constitute the first stage of the process. Suppuration follows; not always, it is true. The mischief may fall short of this. The morbid process, after reaching a certain point, may recede, and the patch of congestion, or the deep-red or livid spots, instead of passing on into suppuration, may, after remaining for a while, clear up, and gradually disappear. But if they pass on into abscesses, they gradually soften towards the centre, which at the same time becomes paler, until at length a puriform fluid oozes out when a section is compressed. Afterwards there is a distinct collection of pus in the centre, with a halo of livid indurated substance, which gradually passes outwards into healthy tissue.

Occasionally, when the local action of the poison seems to have been more intense, the portions of the structure affected do not pass into a state of suppuration, but perish, and patches of gangrenous tissue are found after death. These extreme effects are not very common, and, perhaps, are more often seen in the cellular tissues and in the lungs than elsewhere.

In the same organ, after death, purulent collections in all stages may be seen. Livid or petechial spots, some softening in the centre, others exhibiting well-formed pus there, which is gradually lost as it is traced outward, passing into grey, and then into red, hepatization, until nothing beyond congestion appears. Or simple collections of pus, with little or no surrounding disturbance, passing insensibly into healthy tissue, or it may be abruptly defined, even encysted. Then these purulent collections become, by-and-by, more concrete at the circumference, while towards the centre they are still fluid. But at length, by inspissation, they become caseous throughout, and, if life lasts, they will pass through still further degenerative changes. Thus they may assume the appearance of tubercle.

Digitized by Google

These local effects of blood-poisoning most commonly occur, and may be most conveniently studied, in the lungs, The lungs are not only, by far, the most frequent seat of these changes, but the lungs are often affected alone. It is a rare exception for them to be free when other organs are affected.

In these organs, purulent collections are usually formed, first at the base, and then proceed upwards, so that the greatest number and the most advanced are found in the lowest lobes. This has been pointed out by Dance as a distinguishing feature between these purulent deposits and tubercles. It has also been remarked that the right lung is oftener affected than the left. Again, in the lungs especially, though to a less degree elsewhere, the abscesses vary greatly in size and number; in some cases being large and few, in others small and numerous.

Sometimes, however, these secondary abscesses occur in the liver, when none are found in the lungs or elsewhere, and these exceptional cases almost always admit of a satisfactory explanation. For the poison has been absorbed by the tributaries of the portal vein, and then arrested in the capillaries of the liver through which it must first pass.

However, it would appear that cases occur in which while the lungs have escaped, the liver has been affected under circumstances which do not admit of so simple an explanation.

One of the preparations (18°43) in the Museum of St. Bartholomew's Hospital, is thus described:—

"Portion of liver from a man who died five days after amputation of the thigh for disease of the right knee-joint. The parts divided were undermined by old suppurating sinuses; and the long saphena vein, where divided, was full of dark clots. Before death the opposite limb became œdematous, and its superficial veins hard and cord-like. The deeper veins generally were blood-stained, and their contents fluid. There were remains of an old clot at the junction of the femoral and profunda on the left side; but they were softened and broken down, apparently from decomposition, not by the process of disintegration, which sometimes occur during life.

"The liver was pale and rotten, and the hepatic veins distended. The thin margin of the liver was dotted with small ecchymoses, showing through the peritoneum. The spots in some places appeared to be certainly extravasations, in others only patches of loaded vessels.

"There were no morbid appearances in the lungs or pleuræ. But there were spots of ecchymosis on the heart, with bloody fluid in the pericardium."

But with the lungs, the liver, spleen, kidneys, alimentary canals, heart, muscles, joints, cellular tissue generally, and other structures, are very often affected.

Every surgeon knows that, in almost every case of well-marked pyæmia, one or two or more of the joints are the seat of purulent collections. Indeed, this affection of the joints is usually, during life, the most striking and distressing of the local effects. It is astonishing with what rapidity pus will often be poured forth into a joint under these circumstances, and it not unfrequently happens, when, after death, the joint is carefully examined, a large quantity of pus having been washed out, that only very slight traces of any morbid action can be discovered. Here and there, perhaps, may be discerned some increased vascularity, and probably some thickening, but the synovial membrane, although it

Digitized by Google

may be somewhat pulpy, will be entire, and no amount of mischief can be detected apparently commensurate with the large quantity of matter which has been formed. But in some cases the tissues of the joints—the synovial membrane and cartilage—will be extensively disorganized. It will be obvious that they were being very rapidly destroyed. It does not follow, however, that every joint which is swollen and seems to fluctuate contains pus. Perhaps nothing beyond some slight increase of vascularity and infiltration of serum can be detected.

Lastly, it may be observed, that these purulent collections and the accompanying mischief are by no means confined to the joints proper. They are often discovered in neighboring structures, such as the sheaths of tendons.

I think it has been shown elsewhere that the local effects of pyæmia may be produced by the introduction into the blood of—

Minute particles of solid matter—such as disintegrated fibrine.

Putrid fluids which contain no solid particles.

Pus.

That in either case the immediate local effects are essentially the same. The most critical examination fails to detect any distinction in the engorged portions of tissue produced by these different means, except that when solid particles, which undergo no change, are employed, they may be discovered in the midst.

The action of fresh pus in producing these effects is mechanical. Either its cells, or the clots which it may form in the blood, becomes impacted in the capillaries. When putrid no doubt it acts in both modes.

Pus, then, has no peculiar or specific action when present in the blood. If putrid, it will act like putrid matters generally do; or its globules may, under certain circumstances, like other foreign particles, become arrested in and block up the capillaries, producing effects already described.

The clinical relation of pus to the production of pyæmia appears to be this:—

Suppuration is a common occurrence, either on the surface of wounds or ulcers, or in internal parts.

Pus, as pus, cannot be absorbed; that is, its solid particles, its corpuscles, cannot enter the circulation, except through some lesion of the blood-vessels. Pus may pass into the circulation through an orifice in a vein; this occurrence, however, must be extremely rare. But the fluid part of pus may be absorbed. If this be not putrid no mischief will supervene.

Even if healthy pus should, by some rare chance, find its way into the circulation, no secondary abscesses would perhaps be, under ordinary circumstances, produced. For healthy pus may be, very often has been, injected into the circulation without being followed by any purulent deposit whatever. None of the effects which are ascribed to pyæmia are necessarily produced by the injection of healthy pus.

But pus may become putrid, more especially if exposed to air in a wound, and the putrid fluid may be absorbed; and this, like any other putrid fluid, will produce the effects to which the term pyæmia is applied. It will poison the blood. For when putrid pus is injected the symptoms of blood-poisoning, as after the injection of any putrid matter, will supervene.

It is undoubtedly a rare circumstance to find a case of well-marked

Digitized by Google

and fully developed pyæmia without any evidence of the previous existence of pus in some part of the body. The previous existence of an external wound, indeed, is by no means necessary to the development of pyæmia. In children, on the contrary, it is perhaps most frequently seen in connexion with acute necrosis. But suppuration occurs in these cases.

Now one of the chief arguments of those who affirm that the passage of pus into the blood is the sole cause of pyæmia, is drawn from the assumed fact of the constant pre-existence of a local suppuration. But the fact that pyæmia is so commonly preceded by the formation of pus admits of another, which I believe is the correct interpretation.

Pyæmia is due to the absorption of a putrid or morbid fluid. But such a fluid is hardly ever, can hardly ever be, poured out except under the circumstances in which pus will be formed. Nay, more; no doubt this morbid, poisonous fluid is often the changed or partially decomposed fluid of pus. The conditions under which suppuration occurs are almost always the conditions under which a putrid fluid will be formed and can be absorbed. Admitting fully, however, this relation of pus to pyæmia, it is nevertheless to be understood, that there is another peculiar to pus upon which the production of pyæmia depends.

When one reflects upon the subject, it is not perhaps so difficult as at first sight it may appear to be, to account for the fact that the same effects are produced by such different agents as poisonous fluids and passive particles of solid matter.

To take the second case first. It cannot be doubted that these minute particles act mechanically only, at least at the outset, by blocking up capillary vessels, and so inducing stagnation and congestion, which gradually spread; the farther consequences being determined by other circumstances, such as the extent of irritation thus set up, and the constitution and state of health of the subject.

In the first case, also, stagnation is likewise induced but by a different process. It is essential to a free capillary circulation that the changes between the blood and the tissues which there occur should proceed in a normal manner. It has been shown that whatever interferes with those mutual changes constitute an impediment to the capillary circulation. Hence, then, the congestion and stagnation, more or less extensive and widely spreading, which ensue upon, or can be induced at pleasure by, the introduction of morbid matters into the blood. These may be altogether in the fluid form, yet, mingling with the blood, they must effect profoundly its constitution, and consequently the relation which it will hold to the tissues through which it circulates. Healthy nutrition is checked, the normal changes are obstructed, and, therefore, the capillary circulation is no longer free. The transmission of blood through the capillaries being hindered, it there accumulates, and at length stagnates. Thus obstruction to the circulation of the blood through the capillaries is the common condition arrived at in either case.

It is a significant fact that these different agents not only produce the same result, but affect principally and particularly the same organs—the lungs. In the case of solid particles, which obviously act by blockign up the capillaries, the lungs are the sole or chief seat of the mischief, by virtue of their position—their capillaries being the first that the blood reaches after its contamination,—their vascularity, and the minuteness of their capillary network. What other explanation, in the case of

Digitized by Google

morbid fluids, can be offered of the fact, that here also the stress of mischief falls upon the lungs, than that the cause of it is likewise lodged in the pulmonary capillaries? In either case the organs beyond are more or less protected by the total or partial arrest of the mischievous matter in the lungs.

It may, perhaps, be said, that, generally speaking, the spots of stagnation and congestion produced by the injection of solid particles are smaller and more regular in outline than the patches produced by the injection of poisonous fluids. This variation, which constitutes of course no essential distinction, may be due to the fact that a fluid is more readily and widely diffused through portions of the blood than are solid particles.

It must be observed that the effects produced by the introduction of different matters into the blood is by no means uniform. They may differ widely. Thus, after the mingling of certain poisonous substances with the blood, instead of suppuration, gangrene of the lungs and other organs may be produced. This fact seems to be well established both by experiment and by observation. But does this result—gangrene—represent a difference of kind, or only of degree? Are suppuration and gangrene—to take these striking results—distinct effects of different poisons? or are they only different degrees of morbid action, determined by the intensity or quantity of the poison operating, and the condition of the system? All I can say is this: that the evidence before us does not warrant the conclusion that these effects are due to the action of different poisons.

The causes of the local congestions and suppurations in pyæmia may, therefore, be thus classified.

Stasis due to mechanical action; a blockade produced by the impaction of solid particles. According to their size—

Arterial embolism; by fragments too large to pass through the smaller arteries.

Capillary embolism; by fragments small enough to pass into the capillaries.

Stasis due to change in the blood produced by the admixture of morbid fluid; the local effect of blood-poisoning, properly so-called—

Capillary obstruction.

Stasis due to a combination of the two above-mentioned causes

In all cases stagnation and congestion first ensue. The subsequent changes, whether towards resolution, suppuration, or gangrene, are determined by—

The action of the morbid fluid or obstructing substances. The changes it provokes.

The constitution and state of health of the individual.—*Lancet.*

Etiology of Chronic Bronchitis: By E. Headlam Greenhow, M. D., Fellow of the Royal College of Physicians, Assistant-Physician to the Middlesex Hospital, etc.

Bronchitis, as you are all well aware, is essentially an inflammatory

Digitized by Google

affection of the pulmonary mucous membrance, attended by more or less of flux from the inflamed surface. As regards its usual symptoms and physical signs, I shall not now enter into any separate detailed exposition. You are already in some measure familiar with them, and it will, at any rate, be most convenient to incorporate such explanations as I may deem it desirable to make on these points, with other practical comments on the cases which I shall cite in illustration of my subject. But although bronchitis is always manifested by similar symptoms, and is therefore pathologically known by one name, it is by no means of uniform character in different persons, but varies much in extent, intensity and duration. It may be limited to the larger branches of the bronchial tree, or it may extend to the capillary tubes. It may be a more or less severe acute attack, running a comparatively rapid course and ending in perfect recovery; or it may take a chronic form, and its duration be indefinitely protracted. In its severer forms it is a very fatal disease, especially to the young, the delicate, and the aged. In its milder forms it is attended by no immediate danger to life; but as a bronchial membrane which has once been inflamed is, for a longer or shorter time afterwards, very prone to take on a recurrence of inflammation from comparatively slight causes, even a mild attack of bronchitis, unless judiciously managed and carefully watched, may, especially in persons whose health is otherwise not perfect, become the starting-point of a chronic bronchial affection, and may thus lay the foundation for life-long delicacy or for various secondary ailments.

In the next place, although the general symptoms of bronchitis are always similar, inasmuch as it is always the same structure which is the seat of irritation, this irritation may be produced by very various causes, some proceeding from without, and others from within the organism; some accidental, and others constitutional. One cause, which I have on other occasions shown to produce an immense amount of bronchial disease in certain manufacturing districts of this country, is the inhalation of mechanical irritants, such as fine grit, dust, or fluff, by the operatives employed in various industries. Exposure to cold or damp is, however, generally regarded as the most frequent exciting cause of bronchitis. Sometimes such exposure is, in fact, the only cause, as when an attack of bronchitis results from falling into a pond, remaining for some time wet-shod, getting chilled or wet through on a journey; or else from exposure, without proper precautions, to sudden changes of temperature, such as from the hot and dry air of a crowded church, ball-room or theatre to the cold and damp atmosphere of out of doors. Nevertheless, there can be no doubt that in many instances such causes only excite the disease when a strong predisposition to it already exists, either from delicacy of the bronchial membrane consequent on previous attacks, or on long-standing, local irritation from the inhalation of dust or of over-dried air, or else from some constitutional derangement of health. I am, moreover, well assured, from long and careful observation, that chronic bronchitis is sometimes the direct consequence of some constitutional vice, irrespective of exposure to any adequate external exciting cause. In confirmation of this opinion, I may remind you that bronchitis, although certainly by far most prevalent in the colder season of the year, is by no means peculiar to it, and I have on many occasions directed the attention of those among you who attend my out-patient practice to the occasional tendency of this disease to recur periodically

Digitized by Google

in summer instead of in the more usual season of winter, and generally, on such periodical recurrence, to be associated with some well-marked constitutional disorder.

I have already alluded to the intimate relations between chronic bronchitis and various other ailments, local or constitutional. These relations may be those either of cause or of consequence: as when, on the one hand, bronchitis produces some secondary lesion either of lungs or heart, or some more remote sequence, such as disease of liver or kidneys; or as when, on the other hand, bronchitis is itself the secondary result of some constitutional vice, such as gout or syphilis, or of some local affection, such as cardiac or renal disease.

Bronchitis may thus be either a primary or a secondary affection. Primary, when it is, so to speak, the starting-point of the illness, as in cases where a catarrh contracted from exposure passes into chronic bronchitis, or when bronchial irritation, excited by the inhalation of dust, develops the disease; secondary, in those cases in which the bronchial affection arises out of some constitutional tendency or some other previously existing ailment, such as any of those I have just named. Before concluding this lecture I will read you a brief abstract of several cases, which illustrate respectively the origin of bronchitis from several of these different causes. Again, bronchitis may be associated as a complication with other diseases, such as measles or whooping-cough, or with other pulmonary affections, such as phthisis or pneumonia. In order to avoid misapprehension, however, I should perhaps add, that I have only quoted the above as examples, and by no means as a complete catalogue, of the diseases with which bronchitis is intimately related.

The subject, indeed, is such a wide one that I do not propose, neither would it be possible, to enter into its consideration exhaustively in the two lectures I am about to deliver during the present week; but I have made these general preliminary observations in the hope of impressing on you the great practical importance of the study of a disease in which the variety of causes, complications and consequences must obviously render the prognosis and treatment equally various in different cases; and, in order to illustrate several of the points to which I have adverted in these remarks, I have made a careful analysis of all the cases of chronic bronchitis which have come under my care during the last three months, chiefly in the out-patient department of the hospital. Bronchitis being, however, often a mere result of the wearing out of the machine in advanced life, I have excluded from my analysis all those cases which could properly be classed under the head of senile bronchitis. After this deduction, there remain ninety-six cases, of which fifty-five were those of males, and forty-one those of females; sixty-nine of the number being between the ages of twenty and fifty years. The points more particularly attended to in taking the history of the several cases were—

The duration of the disease.

The influence of season on its occasions.

The previous history of the patients as regarded other diseases or exciting causes.

The existence either of a hereditary or an acquired tendency to any forms of cachexia.

The actually existing complications.

Digitized by Google

I need scarcely say that, in many cases, reliable information on one or more of these points was not to be obtained, but notwithstanding such partial failures, I was enabled, on the whole, to collect sufficient information to serve my present purpose of showing you how largely the origin of chronic bronchitis may be referred to some constitutional condition, and again how frequently the first attack of this disease, and therewith the disposition to subsequent attacks, may be traced back to some preceding illness.

On analysing the cases with reference to the several points which I had kept in view while taking them, I found, in the first place, as regards the duration of the disease, that a very large proportion of our patients had already suffered from several, and some from many, attacks previous to the one for which they came under my care during the present season. In twelve cases only was the existing attack the first, or even the second, from which the patients had suffered. In forty-nine of the remaining cases the patients had been subject to attacks of chronic bronchitis for periods varying from five to twenty years. In some instances the disease had commenced in childhood, and had recurred annually up to the time of the patient's coming under observation. In a few cases there was never entire freedom from the disease; in a few others, again, it was said not always to recur annually, but occasionally to miss a year. In some at least of these cases, however, it seems probable that the attacks were milder, rather than altogether absent, in certain years, for, on close inquiry, it appeared that the patients did not regard as an accession of their complaint anything short of an attack sufficiently severe to disable them from following their usual avocations.

As regards the second point—namely, the influence of season on the development of the periodical accessions of the disease, it was found that winter was exclusively the season of attack or exacerbation in fifty cases; that in a few cases the attacks came on only in spring and autumn; in a few others in summer as well as in winter; and that in about twenty cases the patients could scarcely be regarded as being ever free from their ailment, though it was liable to be aggravated by every undue exposure and every change of season.

We have now arrived at the points which relate to the previous history of the patients, and to the existence of a hereditary or acquired tendency to any form of cachexia, and these include branches of the investigation not only essential towards elucidating the etiology of the disease, but also practically important, in a degree it is scarcely possible to overrate, with reference to the treatment of every individual case. How, indeed, shall we be able to prescribe for our bronchitic patients to the best advantage, unless we can not only ascertain the existence of bronchial irritation, but can also determine whether this irritation be primary or secondary—whether it be the result of an external cause or of an internal condition? Unfortunately, for one reason or another, it was impossible in a considerable number of cases to obtain any really trustworthy account of the patients' previous history, which was therefore only recorded in sixty-six cases, or rather more than two-thirds of the whole number. In thirty-six, or considerably more than half of these cases, the patients had at some previous time suffered either from gout or rheumatic fever, or from some form of gouty or rheumatic fever, or from some form of gouty or rheumatic affection; and in three

Digitized by Google

cases I ascertained that the patients had been the subjects of psoriasis or eczema, which are frequently the results of a gouty taint in the constitution, and which had probably existed in many more instances; for, as will be seen, these complaints were present as actual complications of the bronchitic disease in a considerably larger proportion of our cases. Of the other twenty-seven patients only one had been in perfectly good health previous to the illness for which he came under my care during the present winter. Four dated the commencement of their tendency to bronchitis from an attack of one of the exanthematous diseases; two referred it to a previous definite attack of inflammation of the lungs; five to the inhalation of dust in the course of their industrial occupations; and only five actually traced it to exposure or any of the ordinary causes of taking cold. In the remaining ten cases the patients had long been liable to frequently recurring attacks of catarrh, cough, or dyspnœa, but were unable to assign any cause for the commencement of their ailments, though it seemed probable that in several the bronchial delicacy had originated in an attack of whooping-cough.

Just as in many cases we found it impossible to obtain trustworthy reports of the patients' previous state of health, so, in a still larger proportion of cases, we were unable to collect accurate and reliable facts regarding the family history, which was therefore only recorded in fifty-four cases. The only fact under this head to which I intend now specially to direct your attention is the frequency with which the other members of our patients' families were found to have habitually suffered from some other form of pulmonary disease, or from gout. In eighteen cases there was a distinct hereditary tendency to phthisis, and in twenty-nine to bronchitis or asthma. In thirteen of these twenty-nine cases some other, often several other, members of the patient's family had also suffered from gout, a fact which is important to be observed, as bearing upon the strong tendency to bronchitis in persons of gouty constitution, which has already been brought out by the analysis of the previous history of sixty-six of our bronchitic patients.

There remains only the last point—namely, that respecting the ailments actually complicating the bronchial affection in each individual case, while under observation; and here, as the evidence was before us, and careful observation only was needed to ascertain the truth, we have entirely trustworthy facts regarding all the ninety-six cases. The bronchitis was uncomplicated in thirty-nine cases, but in fifty-seven cases, or three-fifths of the whole number, the bronchial affection was associated with some form of gouty ailment, some cardiac disease, or some other lesion of the lungs, and in some instances two or more of these complications were found in the same patient. In eleven cases gout was present in its regular form, and in five there were arthritic pains and swellings, of the form commonly called rheumatic gout. Psoriasis or eczema was present in eleven, and albuminuria in eight cases. I have already told you that psoriasis and eczema are often of gouty origin—that is to say, that they habitually occur in persons who have either themselves suffered from gout, or in whose family there is a decided gouty taint; and I may now mention that albuminuria is also frequently induced by a gouty state of the system, and, in fact, coexisted with gout, or occurred in gouty constitutions, in several of the eight cases he referred to. It is, therefore, no matter of surprise to find, as I have said, and as indeed many of you have had the opportunity of

Digitized by Google

observing, that cases of bronchitis are often complicated with more than one of these affections at the same time as, for instance, with gout and psoriasis, or with gout and albuminuria, or even, as in one remarkable case which I shall relate to you, with gout, psoriasis, and albuminuria all together. There were, however, other complications to which I must also refer. In fifteen cases, nine of which showed rheumatic fever in their previous history, the bronchitis was asssociated with cardiac disease; in nine other cases with emphysemy, and in three with phthisis. Bronchitis is, indeed, a frequent attendant on phthisis; but I have excluded from the cases selected for my present purpose all ordinary cases of phthisis, and have only admitted the three cases last mentioned, because in each of them the bronchitis was the predominant ailment, being general, and its symptoms well marked, whereas the phthisis was of limited extent, and its symptoms by no means prominent. You will recollect that we found a distinct history of phthisis in the families of eighteen of our patients, from which it would seem that sometimes, when the family tendency has not been developed in the form of genuine phthisis, bronchitis has taken its place. Of this fact I have seen many examples; but I have also seen some very remarkable cases of the converse, in which a bronchitic parent has had phthisical children, and it will perhaps not be out of place here to mention briefly three instances of this which occur to me, with the full details of which I have become accurately acquainted in the course of private practice. In the first case, both parents lived to upwards of eighty years of age; but the mother had suffered from chronic bronchitis from the age of seventeen, and all the sons of the marriage died of phthisis between the ages of twenty five and thirty-five years. In another case, the father died of typhus at sixty-four, and the mother survived to the age of seventy-eight, though she had suffered for very long from chronic bronchitis, of which disease she ultimately died; but all the daughters, with the exception of one, died of phthisis before the age of thirty. A similar history attached to the third family, in which the father lived to the age of eighty-six; the mother died at seventy-three, after suffering more than twenty years from chronic bronchitis; but all their daughters died phthisical in comparatively early life. The frequent occurrence, on the one hand, of bronchitis in members of phthisical families, as shown in my analysis, and, on the other hand, of phthisis in the offspring of bronchitic parents, as in the cases I have just related, would appear to prove that the tubercular dyscrasia, may be a cause of chronic bronchitis, quite independently of the existence of any actual deposit of tubercle in the lungs.—*Lancet.*

Severe Colic and Constipation; Beneficial Effect of Belladona: Under the care of DR. MURCHISON.

BELLADONNA is much more frequently had recourse to in the treatment of constipation abroad than in this country. The beneficial effects which appeared to result from its use in the following case were very

Digitized by Google

remarkable. For information respecting the patient we are indebted to Dr. Murray, house-physician.

Ellen L——, aged twenty-seven, married for three years, but without any family, and catamenia regular, was admitted into the hospital on the 28th of December, 1866. She stated that she had always enjoyed good health, with the exception of an attack similar to the present one about two years before. On that occasion she had been ill for nearly three months; she had taken enormous quantities of purgatives, and yet for three weeks she had passed nothing from her bowels. She had never had jaundice or passed blood in her urine, and no one living in the same house had on either occasion suffered from similar symptoms. The present attack commenced ten days before admission, with severe pains in the abdomen, of a paroxysmal character, and always worse at night. From the first the attacks of pain had often been accompanied with violent vomiting; but for seven or eight days the bowels had acted daily. For at least two days before admission, the bowels had not acted.

On admission, the patient was in great distress with pain in her abdomen and back, which bent her up double. The pain was paroxysmal, but the paroxysms followed one another in rapid succession. She described the pain as shooting from the abdomen down the anus as well as the legs. The urine contained no blood. There was not a trace of jaundice, and no tenderness of abdomen; but the paroxysms of pain were accompanied by violent retching and bilious vomiting. The pulse was 72; the skin felt cool; no external hernia could be discovered; and there was no blue line along the edge of the gums. The patient on admission was ordered a warm bath, poultices with laudanum to the abdomen, a large castor-oil enema twice a day, and a draught every four hours containing twenty minims of laudanum and of chloric ether in an ounce of peppermint water.

On Dec. 30th, she had taken in the course of two days nearly half an ounce of laudanum, besides having a quarter of a grain injected into the skin; and she had had five copious injections of gruel and castor oil, and two warm baths. But there had been no action whatever of the bowels, and the vomiting and pain continued as urgent as ever, so that she had had no sleep since admission. In addition, the pulse had risen to 108, the skin felt hot, the patient was more depressed, and there was decided tenderness in the left groin. Twelve leeches were now ordered to be applied to the abdomen, followed by linseed poultices; and a mixture was prescribed, consisting of castor oil, half an ounce; liquor potassæ, twenty minims; tincture of opium, twenty-five minims; and peppermint water, an ounce and a half; to be taken every sixth hour.

The tenderness of the abdomen was considerably relieved by the leeches; but on Jan. 1st the patient had taken eight doses of the mixture, or four ounces of castor oil and nearly three and a half drachms of laudanum, which had been retained, but without any action of the bowels, and with but little relief to the pain or vomiting. The patient was now ordered a pill containing half a grain of extract of belladonna every four hours, with belladonna ointment to the abdomen, a warm bath at night; and a castor-oil enema twice a day.

On the following morning, after taking four of the pills, and the pupils being moderately dilated, the patient had a copious feculent

Digitized by Google

motion. This was the first action of the bowels for at least a week, and from that moment the pain and vomiting subsided. The pills were repeated twice daily, and the bowels continued to act regularly and copiously. On Jan. 8th the patient was discharged well.

The most probable cause of the colic in this instance, Dr. Murchison believed to be the accumulation of fæcal matter in the bowel, and for the following reasons: Before the bowels acted, a doughy mass could be felt between the umbilicus and the left groin, which, on Dec. 30th, was the seat of considerable tenderness, and when the bowels began to act, large quantities of feculent matter were passed. It is well known that enormous accumulations of fæces may take place in the intestine, notwithstanding that the bowels act daily. A remarkable case of this sort is recorded by Frerichs, in which the accumulation was mistaken for pregnancy or an enormous tumor of the liver.

Although the pain was referred to the back as well as the abdomen, the absence of blood or albumen from the urine, and the immediate cessation of the pain on the bowels acting, negatived the idea of nephritic colic.

The situation of the pain, the age of the patient, and the complete absence of jaundice, were opposed to the notion that it was biliary colic.

The fact that the patient had both attacks in the same house, raised the suspicion that the symptoms might have been due to lead; but opposed to this view were the following considerations:—

1. No other person in the same house had suffered from similar symptoms.

2. In the interval between the two attacks, the patient herself had not suffered from colic.

3. The characteristic blue line of lead was absent from the margin of the gums. The edge of the gums was tumid and unusually red, but there was no blue tint.—*Lancet.*

The Subcutaneous Injection of Morphia: By EDWARD WARREN, M. D., Late Surgeon-General of North Carolina.

IN the fall of 1857, I was called to a young lady, who was suffering greatly with a pain of the the right radio-carpal articulation, accompanied by hysterical symptoms of a decided character. The pain was at once so intense, and so completely localized, that I determined to try the effect af a topical application of morphia. With this end in view, I dissolved half a grain of the sulphate of morphia in a drachm of water and, having punctured the skin with my lancet, I injected the liquid by means of a syringe, which had been constructed for the lachrymal duct.

In a few moments the pain was entirely relieved and the patient profoundly asleep. After the lapse of several hours, she recovered her consciousness, and had frequent attacks of vomiting, but no return of the pain or of the hysterical symptoms.

From that time up to the present, I have been in the constant habit of using morphia hypodermically, employing the instrument described

Digitized by Google

above, for several months, and then substituting a syringe constructed by Thiemann for this especial purpose.

In the fall of 1860, I delivered a course of lectures in the University of Maryland, in which this mode of medication was recommended, and its advantages illustrated by several practical applications in the presence of the class. My claim to priority, as regards the introduction of this remedy into the practice of this country, cannot hereafter be controverted.

With your indulgence I now propose to give a brief resumé of my medical and surgical experience in this regard.

In numerous severe cases of *cholera morbus*—approximating in the intensity of their symptoms to genuine Asiatic cholera—when the stomach and rectum persistently rejected everything introduced into them, I have injected morphia under the skin, with the most decided benefit to my patients. Indeed, in several instances, they declared themselves "perfectly well," within a few moments after the employment of the remedy. and, to this day, believe some magical application was invoked for their relief.

In *asthma*, I have seen it act equally well, restraining the secretion of mucous, relaxing the contracted vessels, relieving the pain, improving the respiration, and promptly inducing a quiet slumber. Unless the attack be of cardiac origin, it is best to precede its application by an active emetic.

A few weeks since I was called to a case of *eclampsia*. A robust woman of middle life, had given birth to her first child, after a protracted and difficult labor; and had then been seized with violent convulsions.

So soon as I saw her, I injected one grain of morphia, in solution, under the skin of the arm, and then bled her freely. Under the combined influence of these two remedies, her pulse became soft and compressible, a copious perspiration started from every pore, the spasms ceased, the stertorous breathing subsided, and the patient sank into a quiet slumber. This condition of things continued for about six hours when she returned to consciousness and rapidly recovered without the, intervention of an unfavorable symptom.

To Scanzoni is due the credit of having first advised the employment of morphia subcutaneously in this disease; while "the combination" referred to above was the offspring of my own reflections.

Hysteria sometimes assumes a form positively frightful to the uninitiated, and not a little alarming to the practitioner.

Last summer I was called to a lady, at one of the principal hotels of this city, who had alarmed the whole establishment by her fearful screams and violent movements. It required the united efforts of several persons to restrain her. Screaming, foaming at the mouth, gnashing her teeth, striving to gain the floor, and occasionally lapsing into violent convulsions, she presented at once a most painful and frightful spectacle.

The difficulty of administering medicines either by mouth or rectum, conjoined with the necessity for prompt and decided measures, induced me to resort to the subcutaneous injection of morphia. Saturating a handkerchief with chloroform, I compelled her to inhale the vapor, and, so soon as she grew composed, I injected three quarters of a grain of morphia in solution under the skin of her arm. In less than five minutes she was sleeping as quietly as a child—every symptom of disease having disappeared—and continued in that condition of quiescence

Digitized by Google

during the entire night. An aloetic purgative, with a warm hip-bath prescribed on the succeeding morning, reproduced the suspended catamenia and perfected the cure, not the slightest trace of hysteria presented itself subsequent to the use of the morphia.

Comments are unnecessary. What other remedy could have acted with so much promptness and efficiency.

In a case of acute *nephralgia* accompaned by agonizing pain, I administered four grains of the sulphate of morphia, in as many hours, by the mouth and rectum, without affording relief. The patient neither "felt sleepy," nor experienced the least abatement of his suffering from the effects of the narcotic. The paroxysms seemed to increase in violence continuously, until, finally, in the acme of a most acute attack, I administered chloroform, and injected subcutaneously half a grain of the sulphate of morphia. He grew quiet at once, and slept heavily for eight hours, when he awoke entirely free from pain.

Chloroform had been previously administered, and warm baths, cups, poultices, etc., employed in connection with the morphia given by the mouth and rectum, without producing more than a momentary subsidence of the pain. The hypodermic use of morphia intensified and perpetuated the effect of the anæsthetic, and give instant and permanent relief to the sufferer.

My routine treatment of *delirium tremens* consists, *first*, in the administration of a mercurial purgative—blue mass and podophyllin—and *then*, in the administration of chloroform and the subcutaneous injection of morphia.

In some instances I have administered twenty grain-doses of the bromide of potassium at intervals of an hour, until the system was thoroughly saturated with it, and have then injected the morphia, with the most happy results.

The pathology of delirium tremens is but little understoood, and its treatment by the profession generally is, therefore, empirical to the least degree.

Confounding effects with causes, medical men have inferred the existence of a specific and invariable pathological condition in this affection, from the manifestation in connection with it of a certain group of nervous symptoms having a definite character.

This is as unreasonable as to suppose that locomotion is infallibly the result of the same motive power, or that death is uniformly produced by the same destructive agency.

From a careful study of this disease, I am convinced that there are at least *three* distinct morbid conditions embraced in the general term, delirium tremens.

1. Positive inflammation of the brain or its membranes, resulting from the toxic effect of alcohol upon the nervous mass. This variety of delirium tremens is characterized by the ordinary symptoms of acute cerebritis, and is the result of the continuous indulgence in the use of alcohol. The patient drinks himself into the attack.

2. Direct irritation of the brain or its meninges, produced either by the continuous presence of the irritating element in the blood, by a loss of susceptibility upon the part of the cerebral mass to the alcoholic influence, the brain requiring the stimulant to which it has become accustomed, and the alcohol being present in the blood, while responsive power of the one to the action of the other has been lost or suspended—

Digitized by Google

or by the actual withdrawal from the system of the stimulant to which it has accommodated itself, and which has consequently become necessary to it.

3. Indirect irritation of the brain, developed through reflex action, from some derangement which exists primarily in the stomach, the liver, or some other important viscera. The nervous symptoms which present themselves in this connection being symptomatic of an inflamed mucous membrane or a deranged secreting organ, as the case may be. Every practitioner is acquainted with the fact, that symptoms of gastritis, hepatic irritation, etc., frequently precede and accompany the progress of this disease, and that no abatement of the mania, trembling, etc., occurs until they have been arrested. The phenomena of reflex action, as well as their mode of development, are too well known to require further consideration in this connection. When the alimentary mucous membrane has become thus inflamed and altered, its powers of absorption are necessarily interfered with; and hence, of the stimulants imbibed, for a small quantity reaches the brain, so that to some extent a *direct* and an *indirect* irritation of that organ are contemporaneously developed.

When positive inflammation of the brain or its membranes exists the subcutaneous injection of morphia is contra-indicated, *according to our present experience*; but when the morbid phenomena result from the precedent induction either of a *direct* or an *indirect* irritation, this remedy seems not only to restrain it within legitimate bounds, but to control the symptoms of which it is the *"fons et origo."*

I have been much disappointed with the hypodermic use of morphia as a curative agent in rheumatism, gout, and neuralgia. When the nerves or their centres are temporarily subjected to a violent disturbance—when the affection is functional rather than organic—this remedy acts with admirable promptness and certainty. It then seems to be a veritable *imperium in imperio*, reducing everything within its reach to a condition of absolute dependence, and enforcing its authority by a talismanic but resistless power over each recusant atom and rebellious element of the organism. Abating all disturbing causes for the time being, removing every source of annoyance, and inducing in the system a condition of profound quiescence—of undisturbed repose—it so refreshes and invigorates the vital principal as to insure for it an easy victory over such affections as have not produced a positive and appreciable change in the economy, and thereby become an integral portion of it—*Medical and Surgical Reporter.*

On Auscultation by the Aid of Musical Vibrations: By WILLIAM H. STONE, F.R.C.P., and MICHAEL GRABHAM, M.R.C.P.E.

IN the course of inquiries whith I have for some years been led to make, as to the effect of playing wind instruments on the chest, both in a healthy and diseased condition, I have incidentally met with an application of musical vibration which may prove to have some diagnostic

Digitized by Google

value. My friend, Dr. Grabham, of Madeira, has also been making similar experiments in a different form, and since his temporary return to England we have been examining the facts together. The subject is, we believe, of sufficient interest to be laid before the profession at an early period, while we hope to furnish further details in a subsequent communication.

The method I have myself adopted, consists simply in communicating a musical impulse to the air in the bronchial passages, by forcibly inspiring through a tube, or pitch-pipe, containing a free reed. The note emitted is thus directly conveyed to the parts under observation, and we can easily feel its vibratory character in the posterior fauces and trachea when we sound the instrument ourselves. In this respect the inspiration note differs entirely from any that can be produced by expiration. The latter are mainly, if not entirely, forced outward with the current of air, and excite little or no intrathoracic consonance. The same remark applies to the sounds heard with the ordinary voice in speaking. Vocal resonance is a somewhat complicated phenomenon. The vocal cords or rather membranes, when set in motion by the expelled current, not only originate a musical sound of variable pitch, timbre, and loudness, according to age, sex, and idiosyncrasy, but actually communicate vibrations sensible by touch to the neck and thorax. This is commonly called vocal thrill, or fremitus, and is with many voices quite inseparable from the purely musical vibrations.

But the note from a reed pipe, drawn into the chest by the act of inspiration, is entirely unaccompanied by any fremitus whatever; thus giving the results of consonance in a form of complete purity.

I have long been in the habit of requesting patients, whose knowledge of music enabled them to comply with my request, to intone or articulate, on a single given note, by way of clearing the vocal resonance of extraneous and heterogeneous vibrations which commonly clash together in the inflections of speech; and I have observed that the indications are infinitely more distinct to the listener's ear. The same fact affects the voice of the intoning priest in large cathedrals, compared with that of an ordinary reader. This is an experiment which can easily, and I hope not irreverently, be tried any day at St. Paul's and Westminster; even in the most remote aisles and chapels, the chaunted prayers come to the ear distinct and to be recognized; whereas the lessons, though read by the same voice, and that, *virtute officii*, a good voice, are reduced to a murmuring jargon of unintelligible sounds. Indeed, I have always attributed the practice of intoning more to experience, and if I may use the phrase, to instinct, than to the traditional invention of chanting and Gregorian music by King Solomon, and their providential preservation since the first services of the Temple. But apart from ecclesiastical buildings, the same process may be heard in operation wherever the human voice has to be made audible to numerous assemblies. A good public speaker almost unconsciously slips from his conversational tone and inflected delivery, into a sharper pitch and a more perfect monotone. It is, perhaps, not irrelevant to cite, as an instance, the late Chancellor of the Exchequer; for there can hardly be any doubt that that distinguished orator owes much of the marvellous facination which his speaking possesses to the gift of a fine baritone voice, and the musical attainment needed for its adaptation to various acoustic conditions. The moment this consonance is attained, the voice

Digitized by Google

begins to travel with greatly increased power; by the uniformity of its tone it can overpower incongruous noises, and it is not materially weakened by the interferences necessarily arising between echoes of the primary note and the utterance of ascending or descending inflection. This is a subject on which I do not for the present wish to dilate though it has never occurred to me to see, either in treatises or in practice, any use made of the singing voice as a modification of vocal resonance. The nearest approach I am aware of is "whispering pectoriloquy," a phenomenon of kindred nature, and of great interest, though like the preceding, difficult at times to substantiate, from the fact that many persons are unable to whisper, in the true sense of the word, but when requested to do so only speak in a very low voice. Real whispering is formed entirely in the mouth, the stream of air which forms the consonants being unaccompanied by any vibration of the vocal cords whatever.

This, then, is exactly the condition of the excited musical sound above described, with the additional advantage, that the vibrating column of air is inhaled, and that the weight of the metal pitch-pipe held between the yielding lips, prevents vibrations sensible to the touch from being transmitted to the ear of the auscultator. Even if the experiment be carried no further, we have obviously a means of testing morbid states of the lung in cases where, from laryngeal disease, or aphonia of any other sort, the natural larynx is incompetent to the function. These cases are not very rare in practice; already it has become evident from the use of the laryngoscope that many cases of aphonia associated with pulmonary disease are dependant on the damaged state of the bellows, rather than an organic lesion of the larynx such as was formerly believed in. I have had occasion to examine many patients at the Brompton Hospital in my own practice, in that of my colleagues there, and in conjunction with my friend Dr. Morell Mackenzie, where this valuable instrument relieved the patient from risk of irrelevant and misdirected local treatment. The use of a musical sound formed in what may be termed an artificial larynx, appears to offer the positive and complimentary evidence demanded of the ausculator after the negative revelations of the laryngoscope. Dr. Grabham has adopted a different method for exciting musical vibrations in the thorax, which consists of fixing an ordinary tuning-fork upright on a plexímeter. The plexímeter being then rested steadily on one side of the chest, and the tuning-fork made to vibrate, the auscultator listens to the transmitted sound on the opposite side, or at varying distances around. I have no doubt that valuable information may be obtained by this process, though it has the disadvantage of involving the thoracic walls themselves in the vibration. Their resonance and elasticity prove, even in the ordinary practice of percussion, a common drawback from the accuracy of the signs obtained, especially in the case of children, where those qualities are most obvious and characteristic. Dr. Grabham and I, hope, however, by comparison of the two methods, and by observations now in progress, to carry the subject a step further, and to show that the musical sound at times behaves differently from that of the voice, and occasionally affords special and trustworthy information.—*Lancet.*

Digitized by Google

Case in which Persistent Priapism was caused by Extravasation of Blood into the Corpora Cavernosa of the Penis: Under the care of Mr. John Birkett.

Cases of persistent priapism are exceedingly rare. Many writers on the special diseases of the male genital organs do not even allude to the complaint, and in the records of English surgery, there are only two instances.

T. V——, a laborer in the country, forty-four years old, was admitted into Lazarus ward on the 14th January, 1865. He stated that he had been suffering from continued priapism for ten days. The only state he made was, that after copulation the penis remained permanently erect. During the first week he felt passionate venereal desires, which subsided, and have not recurred, The cavernous bodies seemed to be the chief seat of the lesion, for the glans penis and corpus spongiosum were not turgid. The man suffered great pain in the part, which was increased by the least attempt at pressure or depression of the organ. He appeared to be cachectic and much out of health, although he stated that he had not been at all so. There was not the slightest evidence of any disease in any other organ of his body, each of which was carefully examined, especially the brain.

A common embrocation was immediately applied, and two days after admission Mr. Birkett introduced a bistoury through the fibrous tissue of the penis into the cells of the corpora cavernosa in two places on each side. Dark, thick, blood-like fluid flowed, resembling that which escapes from a large blood swelling when punctured.

Jan. 18th.—The penis rather œdematous, especially the glans; pain in the part less; priapism scarcely altered.

20th.—On the right side the swelling was more than on the left, and there was a distinct sensation of fluctuation. An incision was made, but only the same kind of bloody fluid as before escaped, with a trace of pus. Warmth and moisture were applied by means of wet lint and gutta-percha.

23rd.—More punctures were made on both sides, as the man bitterly complained of pain, and the penis had not diminished in size. Warmth and moisture continued.

27th.—Bloody fluid and a little pus escaped from the punctures; less pain in, and diminished rigidity of, the penis. Complains of pain in the perineum. During the whole of the time to which this report refers, he passed urine without any difficulty, and with only slight pain.

Feb. 4th.—Not so much pain; the erection is less, the corpora cavernosa being no longer rigid and hard, although there remains an œdematous state of the glans. Pressure by means of strips of soap plaster employed. There has been very slight constitutional disturbance. During the early part of this month, the man progressed favorably, and was able to leave his bed and walk about; but towards the end of it, suppuration took place in the left corpus cavernosum. An incision was made into it, about an inch below the glans, and pus and some sloughs came away. The finger could be passed into the fibrous capsule, and towards the crus into the perineal region. Strapping continued.

March.—During the whole of this month pus escaped from the

Digitized by Google

openings in the sides of the penis, which were carefully kept open, whilst the sides of the organ were compressed by strips of plaster. Water-dressing was applied over the apertures.

April.—Suppuration continued, rather profusely at times, during this month, and about the middle of it, an incision was made in the left crus penis behind the scrotum, in order that the pus might escape more readily by gravitation. This was attended with beneficial results; and although the man was low and his reparative powers were much reduced in spite of a generous diet and tonics, he seemed likely to be soon well.

May.—In the early part of this month the man was rather suddenly seized with great constitutional disturbance, which resembled the commencement of an attack of pyæmia. It seemed, however, to be produced by some local inflammatory action, for after a more profuse escape of pus from the perineal opening, the man rallied. From date (about the middle of May) he gradually improved in health, the discharge of pus diminished, and he left the hospital on June 9th, well. At the time of his exit the penis was of normal size.

The recovery of this patient would have taken place about the middle of February, or about a month after the extravasation of blood occurred, had not suppuration arisen, to which cause his protracted convalescence must be referred. From the moment of his admission Mr. Birkett determined to treat the case on the principle adopted in all swellings resulting from extravasation of the blood; that is, to leave the repair of the injury to the efforts of nature, and not to interfere with the process of absorption. The man, however, complained so bitterly of the pain caused by the extension of the organ, that the incision was made for the purpose of affording relief mechanically—a practice Mr. Birkett would not again adopt.

The first case was recorded by Mr. Callaway in 1825. (*London Medical Repository*, 1824 p. 286.) The man was forty-four years old; and, whilst intoxicated, had connexion with his wife. The state of the penis was exactly similar to that above described; and the priapism had continued unchanged for sixteen days, when Mr. Callaway made an opening into the left crus penis below the scrotum, and a large quantity of dark, grumous blood with small coagula escaped. The corpora cavernosa were emptied, and a few days afterwards the man was able to follow his work.

The second case is published in the *Lancet* of July, 1846, and is described by Mr. John W. Tripe, of Hackney, under whose treatment he continued for four days, and was then admitted into the London Hosiptal, under the care of Mr. Luke. The man was a sailor, aged twenty-six years. The priapism continued after frequent connexion, and was persistent for about four months. In course of time the blood appears to have been absorbed, and the functions of the organ to have become perfectly restored. This man left the hospital after being therein only ten days, and the further progress towards recovery was unassisted by surgical art.

To these another may be added, which we saw recently in St. Mary's Hospital, under the care of Dr. Handfield Jones, and in which, after persistence of the symptoms for a month, relief was obtained by an incision made by Mr. Haynes Walton into the corpus cavernosum of one side. As we understand Dr. Handfield Jones is about to publish particulars of this interesting case, we shall refrain from referring to its details.—*Lancet.*

Digitized by Google

Remarks on "Spotted Fever," as it appeared in Venango Co., Penn:
By D. C. GALBREATH, M. D., Polk, Penn.

[MANY of the former surgeons of the army of Northern Virginia, will recognize in the following description, a disease which was prevalent in many camps during the winter months, and was generally known as cerebro spinal meningitis. The description is so accurate that it needs no comment. The writer, however, seems to have had rather better success than usually attended very much the same course of treatment, in the hands of the Confederate surgeons. We, ourselves, called attention to the disease whilst surgeon of the 3rd Alabama regiment, during the winter of 1862, and claimed at that time in opposition to the general opinion then entertained, that the disease was a blood disease, and that nerve centres were secondarily affected, and that, therefore, cerebro spinal meningitis was an improper name. It was our fortune to see only the severer form of the disease, but in those we found bleeding of no benefit, indeed, so far as we could judge, the blood became early stagnated and failed to flow from openings in the vessels in such quantities as would have *theoretically* afforded relief. We disagree with the author in his view of the typhoid character of the disease, his own showing proves it to be rather of a typhus.]

During 1866, we had a new disease in this vicinity. While the year previous, we had an epidemic of remittent fever. The disease referred to is ushered in with chill, great debility, pains flying from one part to another, more especially in the fingers, toes, right and left hypochondrium and elbows. In the head there is frontal pain, but the most severe pain is in the occipital region, tendency to throw the head back, opisthotonos, dizziness, partial blindness, difficulty of swallowing; always sore throat, though not enough to attract the patient's attention at first; thick whitish coat on tongue; pulse frequent, quick and small; nausea and vomiting, is generally one of the first symptoms; the bowels are generally most obstinately constipated. Once in a while diarrhœa is present, but it is in the mildest cases; dyspnœa is a marked symptom in some cases; paralysis and strabismus, especially with children. The right arm or leg is generally the limb that is paralyzed; the rash is not always present. Sometimes it resembles the rash of measles; other times it is vesicular. I have seen patients remain in a comatose condition for days. One boy, aged eight years, had from fifteen to thirty-five convulsions in twenty-four hours for a week, then run in a typhoid condition for seven or eight weeks, and eventually recovered.

There is also a tendency for the pain to locate in the eyes, especially the left. After the first week, all cases that recovered run into a typhoid condition of varying duration. I have had one case that run along for eight months before recovery. The most dangerous symptoms pass off in the first week. The most deaths occur during the first three days. Some never react, but sink under the first shock.

In ninety-seven cases treated, five died—four children and one adult male; two 11 hours after the disease; one at the end of the second day; one in two days and a half, and the other, a strong vigorous man, at the seventeenth day.

The local treatment was heat, frictions of mustard, water, capsicum and vinegar, blister to spine, anything that would indirectly stimulate

Digitized by Google

the nervous centres. The internal treatment was quinine in scruple doses at first, combined with small doses of opium or dovers powder, tinct. cantharides 3j doses, capsicum and mustard in teaspoonful doses.

The following prescription was commenced at the start and continued all through the disease:

℞—Quinine sulph., gr. xx.
Ferri tinct. mur., f℥ ss.
Aqua, ℥ iii.

M. A teaspoonful to be given every two or four hours.

Three of the worst cases were bled freely, then tinct. cantharides in 3j doses was given to each, followed by quinine in scruple doses with the iron and quinine prescription mentioned above—these cases all recovered. Brandy was hardly ever used, preferring to use strychnine with the iron and quinine or Hall's solution. Cathartics was never given until the second or third day. The disease is, I think, a fever of the typhoid variety.—*Cincinnati Lancet and Observer.*

Epilepsy from Lead Poisoning.

[The following history of a case of epilepsy resulting from lead poisoning, reported to the Suffolk District Medical Society, by Dr. J. S. Hopkins, is particularly interesting as showing a cause of epilepsy which has either not been noticed, or at least very slightly noticed heretofore; and also as it shows the readiness with which rain water in contact with metallic lead is contaminated by it.]

My boy, Frank, was eight years old on the 8th of September, 1865. Has always been of more delicate formation than his twin brother; bones smaller, weight two or three pounds less. We consider him as having the most delicate and susceptible nervous system of any of our six children.

The latter part of September, 1865, his brother reported that at school he had fallen, and according to his description, was convulsed. (It subsequently appeared that some days previously he had a similar attack while amongst his playthings in an attic room, when his brother noticed him lying on the floor and acting strangely, and asked him "What he did so for?" He replied, "He did not know." Neither of them thought enough of it to report it until after the attacks became frequent.)

The evening of the day of the attack at school, the nurse called his parents, after he had been asleep, saying that he was breathing strangely. Nothing abnormal appeared when we arrived, but I seated myself in an adjoining room, and in the course of an hour heard the heavy and laborious breathing, and found him in a convulsion, which continued not over a minute. The eyeballs were distorted and the body and arms flexed spasmodically.

These attacks numbered seven or eight daily, and in the course of two or three days amounted to fifteen daily, which number daily continued until the middle or latter part of the following February, having,

Digitized by Google

however, once numbered, twenty-two or twenty-three in twenty-four hours; but this was when the attacks were not the most protracted nor the most brief.

The duration of each attack varied at different periods, from (I should judge from memory, never by the watch) one third of a minute to one and a quarter or one and a half minutes. They did not vary *much* in duration and severity usually during a period of twenty-four hours, but did in a period of weeks. The heavy, labored, almost stertorous breathing, was our first admonition during the early attack (when he was asleep); soon this ceased, and during the last month or two this symptom occured only at the close of the convulsion, and was our first notice of its subsidence. Indeed, I remember failing to discover any sign of respiration during the greater part of an attack in some of the later weeks. Some other symptoms varied in like manner, as to order, during the whole period. A small quantity of saliva ejected from the mouth terminated many of the attacks—perhaps one fourth of them. The turning in of the thumb upon the palm was sometimes noticed, but was not always or uniformly the case, while I think the strong flexion of the fingers was a usual accompaniment.

The strong contraction of the muscles of the back, and back of the neck, at the termination of the convulsion (spoken of by Tanquerel), was noticed during the severer attack, but did not accompany the lighter attacks. During the night attacks he was always placed in a sitting posture, to elevate the head. Throughout the whole period of more than four months, I failed to discover the blue line on the edge of the gums, spoken of as appearing in lead poison. But the yellowish color of the teeth was quite apparent. One other characteristic spoken of by Tanquerel, as well marked in this case. It was the approximation to recovery, and diminution in force of the attack, so as to excite strong hopes of a speedy and complete restoration, and then a return of all the symptoms in their severity, to be followed by another amendment—what I should call getting up three feet and falling back two.

Early in November, there was some want of power of speech soon after a night attack—the little fellow crying bitterly at his inablity to inform us of his desire for the vessel. This, in a less degree, may have been noticed two or three times only; but by the last of November a foot began to drag, and soon he could only creep about, "on all fours." He had also lost in looks of health very much in two weeks. The hand of that side was also soon affected; he conld not button his clothes or cut up his food, and was carried up and down stairs. He had as many attacks during the day as night, during the severer state of things. Soon he regained his power of his limbs, and the attacks diminished in severity and were confined mostly or entirely to the night. He could accompany me to the village on foot (one eighth of a mile), and if I stopped to talk with a friend, would enjoy prancing back and forth, as boys do when they "make believe horse," his appearance being merely that of a boy who had been sick and who had not regained full health. Again, the paralysis returned and the necessity of creeping, but I think the hand this time was only slightly affected. A subsequent amelioration took place in February. The day and night convulsions became more brief—some of them not over one-fourth or one-third of a minute in duration—and during that month disappeared altogether. He has (Jan. 18th, 1867) had no attack since then.

Digitized by Google

It was just about a year ago that I suspected the cause, and the well-water was examined by Dr. James C. White, of Boston, who reported, Jan. 17th. 1866, "a considerable amount of lead" in both of the specimens (one drawn in the morning, the other at noon)—more in that drawn early in the morning, "but that taken at noon was also impregnated with it in a highly dangerous degree."

I immediately confined the boy's drinking of water to the rainwater from our brick cistern in the cellar, having it dipped from the top, for the faucets near the cellar and the wash-room floor were joined to lead pipe which passed through the two courses of brick. This was about four and a half or five weeks prior to the cessation of the convulsions. As speedily as possible, I had the pipe in the well replaced by one of galvanized iron, but owing to the ground between the house and well being frozen to the depth of over two feet, and all obtainable hands being busy at cutting ice, it was not changed till the 2d or 3d of February last, and the final convulsions were about from the 20th to the 25th of that month.—*Boston Med. and Surg. Jour.*

Abscess of the Right Anterior Lobe of the Brain.

[We quote the following from the report of proceedings of the Cincinnati Academy of Medicine, which is interesting in showing how long a serious organic disease of the brain must have existed, without interfering with its proper functions, and which gave scarcely any of the symptoms usually considered as indicative of such a diseased condition.]

Dr. Barthelow presented a specimen of abscess of the right anterior lobe of the brain, and gave the following history of the case:

"Mr. P. suffered for a year with ozœna, accompanied by an offensive discharge. He had also excruciating pains in the frontal region. His friends observed some mental aberration; he lost interest in his business, became loquacious, and passed sleepless nights. Afterward he fell into a profound coma, lasting many days. His physicians observed a periodicity in his symptoms, as he had chills followed by fever and sweating. Under the use of quinine and cathartics, and inhalations of iodine, he rapidly improved. His ozœna left him, and his mental condition was as perfect as ever. A few weeks ago he fell into a comatose state and died two days since.

"On autopsy, found the mucous lining of frontal sinuses much thickened by chronic inflammation, caries of the inner table of the frontal bone, and a communication between the sinuses and the cavity of the cranium. A firm band of adhesions extending through the opening, connected the dura mater with the mucous membrane of the frontal sinus. The right anterior lobe of the brain was much thicker than the left. An abscess was discovered in this lobe, extending from the anterior extremity to the fissure of Sylvius, having a capacity of not less than an ounce.

"It appeared, on inquiry, that Mr. P. had hit his forehead against a

Digitized by Google

door three years ago. The violent cranial neuralgia and ozœna followed some months after the accident. It is remarkable that this patient should have carried an ounce of pus in his brain, and yet appear for months to be in perfect health."—*Cincinnati Lancet and Observer.*

Incontinence of Urine Successfully treated with Extract of Belladona.

A healthy-looking country girl, fourteen years old, was brought by her mother to the *Metropolitan Free Hospital* on the 11th of January last. She had suffered from nocturnal incontinence of urine for the last two years. Not a night passed without her wetting the bed, and to such an extent that she had been compelled to lie upon straw covered with a sheet in order to change her bedding daily. She had been taken out of her bed at night, scolded, and ridiculed without any effect in making her abandon the habit. Dr. Drysdale ordered her a quarter of a grain of extract of belladona as a pill, to be taken at bed time every night. On the 15th of January her mother came to say that she had not wetted her bed since taking the medicine. Up to the 18th of January there was no return of incontinence of urine. Dr. Dryscale remarked that he had in many cases seen similar results from the use of belladonna in this disease, and supposed that the drug acted by paralysing the detrusor urinæ muscle.—*Lancet.*

Treatment of Pulmonary Consumption.

[At the present time the dietetic and hygienic treatment of Pulmonary Consumption, and other wasting diseases, is eliciting so much attention, and is so much relied on by many physicians. that the remarks of Dr. Wm. Ingalls, of Boston, Mass., on this subject, will be read with much interest and profit.]

A great proportion, if I may not say all, the consumptive patients who have fallen under my care, have declared themselves to be or to have been "not good livers," if the expression may be allowed; hence dyspepsia is rife among them, and this is one of the grand roots of the disease. That they are not good livers may be accounted for by various causes. Poverty need only be mentioned as one. In many families there is a mistaken economy which leads the providers to procure the cheaper meats, butter, and so forth, so that, although there may be an abundance, yet it is partaken of at the expense of the digestion. What seems to be a "national fault," "bolting the food," is a fearfully frequent cause of dyspepsia. Horrible bread, made with drugs, which of themselves are not always of the purest, is another. Appetite may by degrees fail for even the best and most attractive food, as the first

Digitized by Google

symptom of the yet unknown, unsuspected development. The digestion being impaired by the above-named causes, proper nutrition cannot be afforded, and if the consumptive diathesis exists in ever so small a degree, it will assuredly be developed by this faulty nutrition. Briefly, it is not necessary, and it would be almost impossible, to enumerate all the causes of derangement of the digestive organs; there may be added to those already mentioned, the custom of many who sleep in little bed-rooms under impervious bed-quilts, thereby having to fight every morning against a languor and unrest which they cannot account for, so as to get to their early labor or business; unrefreshed by sleeping in an unwholesome atmosphere, with their tongues thick and pasty, how can they partake with cheerfulness of such a breakfast as they ought. to fit them for their avocations? Others, for the most part delicate females, are possessed of a fastidious daintiness which leads them to abhor anything like rich, juicy meats. We have mentioned quite enough.

If good and sufficient nourishment is of very great importance in the prophylaxis of consumption, the condition of the digestive organs during the disease demands our constant and, I might almost say, our sole care, for, as Chambers says, "if the supplies are cut off, what can sustain the forces?" Those instances in which the appetite is entirely wanting, so far as their stomachs are concerned, are to be looked upon as infants; and they require the same kind of management, with this difference: the invalid must be directed, coaxed, perhaps stimulated to take nourishment; the infant sucks its own, and does so with avidity; but both should begin, the one treatment, the other life, with milk. As the well-ordered infant during its first six or eight weeks should be presented with the breast every two hours, with the exception of the five, six, or even eight night hours in which it is or may be sleeping continuously, the stomach resting meanwhile, so let us present to the failing consumptive—do not let us say, "you had better take a little milk occasionally;" prescribe, let us prescribe—two ounces of milk to be drank slowly every two hours from six in the morning until eight in the evening. Thus the patient gets one quart of milk in fourteen hours. To quote Chambers once more: "Nutrition has a habit like that of arguing in a circle; food creates the desire for food—of course by strengthening the digestive organs, and thus, after a few days of milk diet, the patient will ask for meat." I have not found this last assertion to be quite literally true in my cases, but I have found, most generally, that I could by degrees prolong the intervals of giving the milk so that I could introduce other nutriment alternately with it, or suspend it altogether for other articles.

It seems natural at this point to speak of the great efficacy of cream, given in these cases, or at those periods in such cases, in which cod-liver oil cannot be swallowed, even by the exercise of a very powerful will, or if it is, there is vomiting or a perpetual flavor of it in the mouth, that utterly defeats the object for which it is administered. Again, there are some who will take oil for four or five weeks, and then, beginning to experience approaching disgust to it, are obliged to give it up for a time. It is in these cases that I have found cream of signal advantage. In the first mentioned cases there is a natural disgust, an abhorrence to anything oleaginous, and it requires address and persuasion to get them to take even cream. I have succeeded best by

Digitized by Google

offering a small cupful, say four ounces, in the middle of the forenoon and also of the afternoon, with a teaspoonful of brandy, of best quality, if it can be obtained, or of whiskey; but brandy is the best for the purpose—sometimes two teaspoonfuls may be taken.

For several years I have been educating a number of consumptive patients, as well as others who were anæmic from different causes, in the art of taking proper and sufficient nourishment; beef, roasted or boiled, to be sure, but going through the process in such a manner that it was only saved from being called raw because of it, being the burden of my teachings, when, in 1857, I read in the Boston Medical and Surgical Journal an article by Dr. Bowditch upon the custom of certain hunters who used, with advantage, raw pork upon their expeditions; and the hint derived therefrom led to my peculiar treatment of the following case of acute dysentery, and, after this case, to my offering raw beef to many consumptives and others.

In 1859, during September, I attended a beautiful child, with severe acute dysentery. On the fifteenth or sixteenth day there were good reasons for believing convalescence had fairly begun, but on the eighteenth or nineteenth there was a palpable relapse. I caused a quantity of raw beef, of the best quality, to be cut up by a very sharp knife, so that it became a pulp instead of minced meat. A very little salt being mixed with it, two heaping teaspoonfuls of this pulp, placed upon a small plate, were set by the mother before the child without seeming to care whether the little girl partook of it or not. In a few minutes the little fingers were dipped into the pulp, which of course was immediately conveyed to the mouth. Within ten minutes the whole of the pulp was eaten. This was in the middle of the forenoon; in about six hours the same quantity was taken, and also again in eight hours. This plan was continued during three days, for there was a manifest improvement in the disease; but on the fourth day there was an evident disinclination to take the pulp, although some portion was taken, and also milk on this day. On the fifth day no inducements availed for the child to touch or even to look at the pulp. She went steadily on to perfect health; she took nothing, during the three days mentioned, besides the beef-pulp, but, occasionally, a drink of fresh, cool water.

In anæmia from other causes than that of pulmonary disease, as well as in consumption, the virtue of raw-beef pulp, sometimes with, and sometimes without alcohol, has, in my experience, been most signal in making red blood. From many recorded cases, I will give extracts from one which will do more in illustration than twenty pages of eulogy. A lady, thirty-two years of age, whose mother and an only sister died of consumption, had been under my charge more than eight years, in September, 1865. A large cavity in the upper right lung had been observed for five years, and a smaller one in the left upper for between three and four years; tubercles studded the remainder of the lungs, but there were less in the lower right than elsewhere. Up to the summer of 1864, there had not been much emaciation, but the limbs were always soft. From that time gradual emaciation of the limbs and body supervened, although the face and temporal region remained full and fair up to the time mentioned (September, 1865). Profuse night sweats and expectoration, and consequent loss of sleep therefrom; disgust for all sorts of food or nourishment; a dreadful sense of lassitude from weakness;

Digitized by Google

these were the symptoms which at last caused the bloom and freshness of the countenance to give place to pallor and wanness, and to a glistening of the eyes which seemed much larger than natural. I may not say that hope had fled, but I do know that she was perfectly resigned to go or stay as the case might be.

Some beef having been reduced to pulp, all the bits of membrane and other extraneous matter being carefully picked out, and a very little salt mixed with it, three pellets, each of the size of an ordinary marble, were presented to my patient at 7 A. M., of which she ate two, and afterwards drank of whisky one ounce and water two ounces. Three pellets, followed by whiskey, were eaten at 11, 3, 7 and 11 o'clock. This was on the 20th, and on the 27th she rode half a mile and back. By the middle of October the amendment was so considerable that she expressed herself as feeling a kind of shock at coming back to life. It must not be supposed that when improvement began she was confined solely to the beef pulp. She was induced to eat a squab nicely broiled, or a wood-cock, or a piece of rare roast beef---sometimes drinking a cup of cream and brandy. Care was taken that she should not become disgusted with the pellets of raw beef, for I believed it was to be her sheet anchor during the remainder of her life, and it was. She lived until the end of 1866.

It may be said that all this might have been done by cod-liver oil. I fully recognize the virtues of this oil, but this patient had taken it a great many times during my long attendance upon her, and it was only by the exercise of her will that she could swallow it; she never could overcome her disgust to it. Who can describe how great a blessing the beef was to her!

Let me speak well of Liebig's formula for "extractum carnis," viz., "a pound of finely chopped beef to be put in a pint of cold water, which is by degrees to come to the boiling point; boil four or five minutes and strain." Take it for all in all, this is the best liquid nourishment I have ever used; his extract of beef, made near Buenos Ayres, according to his own formula I have never seen. "Borden's extract of beef" is good and highly nutritious; with boiling water, in a moment, a teacupful or a gallon may be made.

At a future time I may urge what I believe to be the true mode of life for the class of patients under consideration, viz., "tent life." I will say nothing upon the subject of "exercise in the open air" further than this, for we all know all about the importance of directing it. Does any one of us, in the full vigor of health, with an avocation which calls us out of doors at all hours and in all kinds of weather, know what it is to the invalid, weakened in mind as well as in body, to go out for a daily walk? A majority of our patients cannot command a drive twelve times in a year. A little walk of two, three, or even five or six directions, becomes irksome from the sameness. If there is nothing but duty to themselves to call them forth; we must create an emergency for them; it is pretty well if they will go out, bravely, through this sense of duty; but there are plenty of objects for them to become interested in among the poor and distressed—a garment to one, a bottle of wine to another, a word of comfort to any or many, even although it may be from one poor person to another.—*Boston Med. and Surg. Jour.*

Digitized by Google

THERAPEUTICS AND TOXICOLOGY.

A New Narcotic Poison.

At a late meeting of the Society of Sciences, at Gottingen, Herr T. Husemann gave a description of a plant which is used in India as a narcotic, and of which the scientific name is *Nerium antidyssentericum*. The bark and seeds are used by the natives in the treatment of diarrhœa, flatulence, fevers, and billious affections. Herr Husemann's experiments upon the action of the drug were made principally on frogs, toads, pigeons and rabbits, and they demonstrate that in doses of from 150 to 200 milligrammes the alcoholic extract begins to be poisonous to reptiles, and in doses of 250 to 300 milligrammes it produces death rapidly. Pigeons and rabbits are destroyed by doses of from two to four grammes. These figures relate to cases where the poison was administered by the hypodermic method. In reptiles the effects show themselves in about a quarter of an hour, and in pigeons and rabbits in from thirty to forty-five minutes. Death takes place in from three to four and a half hours. At first there is paralysis of the muscular system, then suppression of the reflex movements. There is no appreciable alteration in the size of the pupil, or in the movements of the heart. Death takes place by paralysis of the thoracic muscles.—*Lancet.*

On Benzoinated Lard. By Thomas Dolliber.

[The use of an agent which would prevent the rancidity to which nearly all the pharmaceutical preparations made with lard or oil are liable, has long been a great desideratum, that is, one which had this preservative quality without interfering with the Medicinal properties of the preparation itself. The annexed process seems to be capable of fulfilling this object.]

In order to ascertain the best process of benzoinating lard, the following experiments were tried:

Two troy-ounces of benzoin were digested with 32 troy-ounces of lard in a water-bath, in accordance with the formula of the Pharmacopœia for preparing ointment of benzoin. The residue of the benzoin, after being dried at a very moderate heat between the folds of bibulous paper, was found to weigh one troy-ounce and 306 grains. There had been abstracted from it 174 grains by the lard, provided there were no loss by evaporation or by the subsequent drying. The benzoin, after being digested in the lard, appeared to be unaltered in its sensible properties.

One troy-ounce of benzoin was macerated in four fluid ounces of alcohol, which dissolved 406 grains. The residue had no odor of benzoin and on being digested with lard yielded no perceptible odor or color

Digitized by Google

to that substance. It was thus proved that lard will not dissolve any portion or principle from benzoin that alcohol will not also dissolve. It was also proved, by repeated trials, that 16 troy-ounces of lard will not dissolve and retain more than 90 grains of benzoin by the process of the Pharmacopœia for ointment of benzoin.

After several trials the following formula was adopted as the best one for benzoinating lard:

Benzoinated Lard. Take of Tincture of Benzoin four fluid drachms. Lard, 16 troy-ounces.

Rub them together until they are thoroughly mixed; then melt the mixture by a gentle heat and stir the product constantly while cooling.

Tincture of Benzoin. Take of Benzoin, in coarse powder, six troy-ounces. Alcohol, one pint.

Macerate the benzoin with the alcohol until it is dissolved; then filter through paper. The benzoinated lard made by this process is beautifully white and smooth, with the odor of benzoin well marked; while the officinal ointment of benzoin is almost always dirty white in color, and granular from long digestion in the water-bath, and if heated over a direct fire the benzoin is precipitated upon the inside of the vessel, which precipitate cannot be re-dissolved by heating; while the benzoinated lard prepared by the above formula can be heated to 200° without precipitating the benzoin, and consequently can be used in the preparation of any of the ointments of the Pharmacopœia.

Three portions of mercurial ointment were made. The first was prepared strictly according to the formula of the Pharmacopœia. In the second, ointment of benzoin was substituted for lard. In the third, benzoinated lard was substituted. These three portions, covered lightly with paper to prevent accession of dust, were exposed to the air at the ordinary temperature. Two were made in January, and one in June last; but as neither portion has yet become rancid, I cannot definitely answer the second clause of the query.

Three portions of ointment of red oxide of mercury were also made: the first with lard, the second with ointment of benzoin, and the third with benzoinated lard. The three portions when made were of the same pink color and perfectly smooth; they were made on the 20th of June, and were exposed in the same manner as the mercurial ointment for nearly two months; at the end of which time they were found in the following condition:

The first made with lard, had changed in color to dark green, had separated into a glanular and a semi-fluid substance, and had become very rancid. The second, made with ointment of benzoin, had not changed color nor become rancid, but had separated in the same manner as the first. The third made with benzoinated lard, was entirely unchanged in odor or appearance, and looked precisely as if just made.

Experiments with other ointments have not been tried, but there is no doubt that the benzoinated lard can be used in many of the ointments of the Pharmacopœia, without affecting their medicinal qualities.

—*Proc. Am. Pharm. Ass.*, 1866.

Digitized by Google

EDITORIAL AND MISCELLANEOUS.

OBITUARY.

DIED, in the city of Mobile, on the 23rd day of December, 1866, at 11¼ P. M., of Pneumonia, after a short illness, EDWARD RANDOLPH MORDECAI, M. D.

Dr. Mordecai was the son of Dr. Solomon Mordecai, and was born in Mobile, Alabama, on the 27th of April, 1825. He was carefully reared, and received a liberal preliminary education at home; principally under his father's tuition.

In the fall of 1843, at the age of 18, he entered the Academical Department of the University of Virginia. where he continued during the sessions of 1843-4-5, graduating in the Ancient and Modern languages and their literature. Here he was known as a close student, and acquired an enviable reputation among his fellows for great precocity of intellect and attainments.

He then commenced the study of medicine; attending his first course of medical lectures in the same University, 1847-8, taking the degree of M. D., in one course, July, 1848. From the University of Virginia, he repaired to Philadelphia, where he remained for a year or more, graduating in the University of Pennsylvania, in 1849. He then went to Paris, remaining there about eighteen months, and devoting himself to his profession with all that diligence that was peculiar to his nature. After travelling extensively in Europe, and visiting most of its hospitals of note, he returned home in 1851, and soon afterwards commenced practice with his father, who at that time enjoyed one of the largest and most lucrative practices in this city. In 1854 he was Quarantine Physician of the Port of Mobile discharging all its duties with faithfulness and ability. On returning to the city, and resuming practice, he soon rose to distinction in his profession, especially in consultation practice at his office, for which he had a great fondness, as a self-reliant, bold and skillful surgeon. He had, however, but little taste for obstetrics, or the treatment of female diseases, except those of a strictly surgical character.

When the Medical College of Alabama was first established in Mobile, 1859, he was tendered a Professorship in it, but having little taste for the chair to which he was assigned, he declined it. For many years he was physician and surgeon to the Providence Infirmary, a well regulated hospital, established here by the Sisters of Charity. Also to the Catholic Orphan Asylum and Convent. near the city. He was long an active member of the Mobile Medical Society, and President of that body in 1861. He was, also, a member of the Academy of Natural Sciences, at Philadelphia. This latter compliment was tendered to him on account of his fondness for the natural sciences. He studied with much care the natural history of fishes, and in 1859, along with other amateurs in this line, he conceived the idea of introducing the Atlantic Shad into the Gulf of Mexico, by transferring the spawn and young shad from the Ochmulgee and Oconee Rivers of Georgia, into the head waters of the Alabama River, and thence allowing them to descend to the bay of Mobile. To the expense of this undertaking he was a liberal contributor. But the war coming on soon after, the scheme for the present

was abandoned. About this time he wrote a monograph on the "Food of the Shad," satisfactorily accounting for the nutrition of the vast swarms of these fish which ascend the Atlantic rivers to deposit their spawn. This was a very philosophical and highly interesting paper, accompanied with much microscopic research and deep investigation into the habits of the genus Alosa. It was presented to, and read with much interest, before the Academy of Natural Sciences, at Philadelphia. Dr. M. was not in the service during the war, but contributed his means liberally to the cause, in which he had an abiding faith to the last. His professional services were freely given, at all times, to the families of all soldiers, and to the sick and wounded themselves, in and around the city, during the whole of this time.

It will be seen by the above sketch that Dr. Mordecai was no ordinary man. He was naturally endowed with a highly gifted intellect, and had thoroughly cultivated it. His powers of concentration and analysis were of the very highest order, grasping, as it were, almost intuitively, the strong points of every subject presented to his mind, and which he never lost sight of afterwards.

In the death of Dr. Mordecai this community has sustained a great loss. He was a warm friend, a punctillious and sensitive gentleman, strictly just, honest and reliable in all the relations of life. He was assiduous and ceaseless in his attentions to his aged parents, devoted to his profession, and an accomplished physician and surgeon.

G. E. R., Mobile.

To our Patrons.

In presenting the first number of our Second Volume to the Profession, we cannot allow the opportunity to pass without returning our sincere thanks to those who, at the inauguration of our enterprise, so generously volunteered their aid, both pecuniarily and with their pen. To our subscribers we hope we can say, without fear of a charge of self-laudation, that our promises have been fulfilled, and we trust that the past will be received as an earnest that in the future no effort will be spared to retain the present standard of the journal, should we receive that aid we have every reason to expect.

Our journal is yet young; but so far its success has exceeded our most sanguine expectations. When, fourteen months ago, our lamented confrère, Professor E. D. Fenner, together with the present editorial corps, issued the prospectus of a Medical Quarterly, to be published in the city of New Orleans, an organ of the profession unswayed by any cliques, it was scarcely hoped that the enterprise would be self-sustaining for some years. But recognizing in New Orleans, surpassed by no city in this country in its advantages for clinical observation, a centre around which might be collected the medical talent of the entire Southern country, it was determined that an attempt should be made to foster this talent, and to place its results before the profession at large, in the shape of a medical journal, though we were perfectly aware that the undertaking would be attended at first with pecuniary loss. In this we were not disappointed; but the duration of that period has been much shorter than was at first supposed, and the journal has, at the commencement of its second year, become so far self-sustaining as to enable us to reduce the subscription from eight to six dollars per annum, in fulfillment of a

Digitized by Google

promise made in our prospectus of April, 1866. As our list of subscribers increases, still further reductions will be made, and it is hoped that at no distant day, despite the lower rate of publication and the many other facilities possessed by some of our neighbors, New Orleans will be enabled to offer to the medical profession a journal as cheap, if not cheaper, than any of a similar character published in this country. The more willingly and the more promptly our brethren respond to our call, the sooner will this be accomplished.

We again call attention to the fact, that our pages are always opened to all essays, reviews of new publications, or clinical reports; and we will willingly pay those who desire compensation, as high rates as are allowed by any medical journal in the United States. It is our wish to place before the profession a first-class quarterly, a mirror of the practice of the present day. To do this contributors are absolutely necessary. In our editorial capacity we are but the colaborators of the labors of others, and, as such, can attain no success unless the results of those labors are so placed at our disposal as to enable us to cull what may be useful to the profession at large. To benefit all, there must be an interchange of thought between the members of our profession in every section of this country, and a medical journal is the only medium for such mutual interchange—can not the physicians in the South be induced to take advantage of it? The material certainly exists in abundance, a little energy only is required to record it in a useful shape.

In order that our patrons may have the advantage of the very latest European medical news, and be ever promptly notified of all discoveries, improvements and progress made in the science of medicine, we have succeeded in effecting an arrangement by which a letter from London, Paris or Vienna, will appear regularly in the journal. We also announce that we have received the subscription list of the Charleston Medical Journal which is now incorporated with our Journal, and that its former editor, Dr. J. Dickson Bruns, Professor of Physiology, etc., in the New Orleans School of Medicine has kindly consented to aid us with his able pen both in the original and editorial departments. This announcement, we feel assured, will be received with pleasure by the old friends of Prof. Bruns, who has been silent for several years, whilst engaged in the arduous duties of a surgeon in the late Confederate army. It certainly is gratifying to us to be able to introduce to his former fields of usefulness a writer so favorably known in medical literature. We shall be gratified to hear from the patrons of the veteran journal which he formerly conducted, and which long occupied a foremost place among Southern periodicals.

To our exchanges we return our thanks, and solicit a continuance of that kind consideration which so far they have been pleased to extend to our efforts.

In closing we would invite attention to our advertising pages; few of our subscribers will fail to find there something of interest to them.

Mr. I. Baker Brown.

At the March meeting of the Obstetrical Society of London, the President gave notice of a resolution which had been carried at two large

Digitized by Google

meetings of the Council and which would be proposed at the next meeting of the Society to be balloted upon, by the Fellows then present, to wit: "That in the opinion of this Council, the published matters in relation to the performance of Clitoridectomy, by M. I. B. Brown, justify the council in recommending the Society to put in force against him Law iv, Sec. 2, which provides for the expulsion of a Fellow."

The medical public is pretty well informed of the facts in Mr. Baker Brown's case, and we believe we speak the general sentiment of the profession on this side of the Atlantic, when we say that the news of his expulsion will be gratefully received. If it fail to cure Mr. Brown, it will serve, at least, as Voltaire said of Byng's case, "*pour encourager les autres.*"

It is not our intention to review Mr. Brown's pathology or method. The moral bearing of his proceedings is matter of concern chiefly to the community in which he lives, and is certain to have full justice done it at the hands of the Obstetrical Society. His opinions on the subject of clitoris irritation, and his operation of clitoridectomy we hold to be alike infamous; but it will be time enough for us to denounce them when they show any sign of acceptance at home. We propose to do no more than give a succinct account of what we have seen ourselves, and leave our readers to form their own conclusions.

Curiosity led us, whilst in England, last summer, to visit Mr. Brown's Hospital for women, the "Surgical Home," at Notting Hill, London.

On entering the operating room, we were quite startled at its appearance, which much more nearly resembled a dissenting chapel than a surgery. The medical attendants all wore conspicuous white cravats, and black clothes, and moved about with the silent tip-toe manner of undertakers. The walls were hung round with framed cards, setting forth the fact that the Princess of Wales and quite a number of the nobility and clergy were patrons of the institution; great prominence being given to the fact that the institution was under the immediate protection of the latter. At our first visit Mr. Brown was absent—stated to be unwell—but his place was supplied by Mr. Harper; a coarse haired man, apparently about forty-five, with a low forehead, a flat head, thick nose, and broad, sensual mouth.

The first operation for laceration of the perineum was very skilfully performed. After this patient was carried out, another was brought in, already chloroformed. She was a young, healthy woman, well nourished, weighing about 130 pounds or more, with a ruddy complexion, large, well rounded limbs, and altogether a type of physical perfection. Mr. Harper stated that she had been admitted for fissure of the anus; but that on a more careful examination, no fissure was found to exist. As he was satisfied, however, that she was a subject of "clitoris irritation" he proposed to operate for the cure of that vice. The diagnosis was based on the following signs; excessive growth of hair around the vulva, a strong, fœtid, vaginal odour, and a conoidal *cervix uteri*. These signs he pronounced pathognomonic. The entire clitoris was then cut away, by three broad incisions, the *labia minora* removed, and the *sphincter ani* divided on both sides, the slashes extending down to the tuberosities of the ischia.

The third case was one in a woman of equally healthy appearance, said to be suffering from fissure, and epileptic fits; the latter diagnosticated as the result of "clitoris irritation." She, too, was brought in, already under the influence of chloroform, and put on the operating table.

Digitized by Google

Her sphincter was slashed in the same reckless manner, and Mr. Harper stated that, as he was confident of the cause of the epilepsy in her case, from the presence of the signs above-mentioned, he would also remove her clitoris. In this woman it was almost invisible; but the blades of the scissors were driven down, about an inch and a half apart, to the rami of the pubes, and the horizontal cut united by two oblique sections; removing a very large triangle at the superior commissure. The internal labia were then sliced away. "We remove the labia minora," Mr. Harper blandly remarked, "and make the rectum sore by these cuts, as you see, to prevent our patient from resorting to vaginal irritation. It is in this way that we gain time for those *moral* remedies, which we ultimately address to these cases." We quote his very words taken down in our note-book at the time.

Both of these women were as fine specimens of their sex, physically, as we have ever seen; both were wives of honest workmen, and both paid their board at the "Surgical Home." Neither had ever been detected in the act of masturbation, nor had either confessed to the practice of that vice, to which infamous charge their high health and splendid development gave the lie in unmistakeable physiological language. Yet both were made the subjects of a barbarous mutilation, *without their knowledge or consent*; deluded into taking chloroform by the belief that some other operation for another affection was to be performed, and without a friend or relative being present.

Mr. Harper stated that he had the full authority of Mr. Brown for all that he did, and we had ample proofs from Mr. Brown himself, at subsequent visits to the "Home," that in saying this he had not uttered a falsehood. On a field-day at that moral exhibition we have seen clitores lying about on the saw-dust under the table like the bits of meat at a butcher's shamble, Mr. I. Baker Brown coolly remarking the while to his audience that they were not sure of their cases so far; but were *feeling their way* to a correct diagnosis. "We hope, after more experience, gentlemen, to be able to pronounce with certainty in what cases the nervous affection depends on clitoris irritation, and when not." We did not converse with a single stranger at these clinics who did not express his deep disgust and indignation at what he had seen. The unprejudiced testimony of one observer may not be without interest to the Obstetrical Society, as justifying the decent, self-respectful and manly course they have taken in purging their body of Clitoridectomy.

American Medical Association.

THE Eighteenth Annual Meeting of the American Medical Association will be held in Cincinnati, on Tuesday, May 7, 1867, at 11 o'clock, A.M.

The following Committees are expected to report:

On Quarantine, Dr. Wilson Jewell, Pa., Chairman; On Ligature of Subclavian Artery, Dr. Willard Parker, N. Y., Chairman; On Progress of Medical Science, Dr. Jerome C. Smith, N. Y., Chairman; On the Comparative Value of Life in City and Country, Dr. Edward Jarvis,

Digitized by Google

Mass., Chairman; On Drainage and Sewerage of Cities, etc., Dr. Wilson Jewell, Pa. Chairman; On the Use of Plaster of Paris in Surgery, Dr. Jas. L. Little, N. Y., Chairman; On Prize Essays, Dr. F. Donaldson, Md., Chairman; On Medical Education, Dr. S D. Gross, Pa., Chairman; On Medical Literature, Dr. A. C. Post, N. Y., Chairman; On Instruction in Medical Colleges, Dr. Nathan S. Davis, Ill, Chairman; On Rank of Medical Men in the Army, Dr. D. H. Storer, Mass., Chairman; On Rank of Medical Men in the Navy, Dr. W. M. Wood, U. S. N., Chairman; On Insanity, Dr. Isaac Ray, R. I., Chairman; On American Medical Necrology, Dr C. C. Cox, Md., Chairman; On the Causes of Epidemics, Dr. Thomas Antisell, D. C., Chairman; On Compulsory Vaccination, Dr. A. N. Bell, N. Y., Chairman; On Leakage of Gas-Pipes, Dr. J. C. Draper, N. Y., Chairman; On Alcohol and its Relations to man, Dr. J. R. W. Dunbar, Md., Chairman; On the Various Surgical Operations for the Relief of Defective Vision, Dr. M. A. Pallen, Mo., Chairman; On Local Anæsthesia, Dr. E. Krackowizer, N. Y., Chairman; On the Influence upon Vision of the Abnormal Conditions of the Muscular Apparatus of the Eye, Dr. H. D. Noyes, N. Y., Chairman; On the Comparative Merits of the Different Operations for the Extraction of Vesical Calculi, Dr. B. I. Raphael, N. Y., Chairman; On the Therapeutics of Inhalation, Dr. J. Solis Cohen, Pa., Chairman; On the Deleterious Articles used in Dentistry, Dr. Augustus Mason, Mass., Chairman; On Medical Ethics Dr. Worthington Hooker, Conn., Chairman; On the Climatology and Epidemics of Maine, Dr. J. C. Weston; of New Hampshire, Dr. P. A. Stackpole; of Vermont, Dr. J. Henry Janes; of Massachusetts, Dr. Alfred C. Garratt; of Rhode Island, Dr. C. W. Parsons; of Connecticut, B. H. Catlin; of New York, Dr. E. M Chapman; of New Jersey, Dr. Ezra M. Hunt; of Pennsylvania, Dr. D. F. Condie; of Delaware, Dr. —— Wood; of Maryland, Dr. O. S. Mahon; of Georgia, Dr. Juriah Harris; of Missouri, Dr. George Engelman; of Alabana, Dr. R. Miller; of Texas, Dr. Greensville Dowell; of Illinois, Dr. R. C. Hamil; of Indiana, Dr. J. F. Hibberd; of the District of Columbia, Dr. T. Antisell; of Iowa, Dr. J. W. H. Baker; of Michigan, Dr. Abm. Sager; of Ohio, Dr. J. W. Russell.

Secretaries of all medical organizations are requested to forward lists of their Delegates, as soon as elected, to the Permanent Secretary,

W. B. ATKINSON, M. D.,
215 Spruce street, Philadelphia, Pa.

To Our Subscribers.

We again call attention to the fact that our terms are invariably in advance, and that in all cases the Journal will be discontinued at the termination of the subscription paid for. Many of the bills for Volume Two forwarded in our last number still remain unnoticed. Presuming this to be due to oversight on the part of those to whom they were sent, we are willing in this instance, to deviate somewhat from our rules, by forwarding Number One, of the second volume.

Digitized by Google

List of Graduates New Orleans School of Medicine.

THE regular session of the New Orleans School of Medicine closed on the 15th of March, the following gentlemen having received the degree of Doctor of Medicine.

Ruffin Thomson	Miss.	Benj. F. Conn	Miss.
Jesse N. Nelms	La.	E. H. Baker	La.
T. W. Coleman	"	J. F. Kelly	"
W. M. Longmire	Ala.	A. A. Landry	"
F. A. De Poincy	La.	H. L. Alexander	Miss.
W. H. Beazley	Texas.	A N. Perkins, M.D	Ala.
A. E. Beasley	Georgia.	L. R. Starke	"
T. M. Ragan	La.	A. H. Herring	Ga.
R M. Swearingen	Texas.	C. H. Griffin	La.
R. M. Stancill	Miss.	R. B. Walton	Miss.
W. C. Holmes	"	J. A. Crawford	"
W. W. Graves	"	C. B. Ridley	Ga.
J. A. Root	"	R. B. Trezevant	Ark.

To Our Subscribers.

FOR the purpose of affording every facility to our Subscribers, we have made arangements to commute with the following medical journals at a very low rate.

Richmond Medical Journal, (monthly) and Southern Journal of the Medical Sciences, for $10.

St. Louis Medical Reporter, semi-monthly and ditto, for $8; or the Southern Journal of Medical Sciences and both of these journals for $11·50.

To those of our subscribers who have already paid for volume two, we will furnish either or both at the difference between the amount already paid and the price specified above.

The Richmond Journal and the Medical Reporter are ably edited, and we sincerely hope that to call the attention of the profession to them will be all that is necessary to gain for them the support they so richly deserve.

WE would call attention of our subscribers to the advertisement of Gelatine Capsules, manufactured by Messrs. H. Planter & Son, of New York. They afford an excellent and ready vehicle for administering to patients both pills and powders in a pleasant and palatable form, are light, of a moderate size, and readily dissolve in the stomach.

Digitized by Google

Report of Deaths in the City of New Orleans, from the 30th day of December, 1866, to the 31st day of March, 1867.

Males—658. **Females**—451. **Not stated**—51. **Total**—1160

DISEASES.		DISEASES.		DISEASES.	
Abscess of Liver	2	Dysentery Chronic	14	Jaundice	2
Albuminuria	3	Diptheria	7	Killed Accidently	8
Aneurism	1	Epilepsy	1	Killed or Murdered	7
Anæmia	7	Entero-Colitis	1	Labor, Difficult	2
Asthma	10	Erysipelas	3	Liver, Disease of	2
Apoplexy	19	Exposure	2	Lockjaw	6
Bronchitis	31	Fever Bilious	2	Malformation	1
Burns or Scalds	14	Fever Congestive	10	Marasmus, Adult	6
Bright's Disease	3	Fever Pernicious	6	Marasmus, Infantile	8
Cancer	6	Fever Intermittent	5	Meningitis	15
Cancer of Stomach	4	Fever Brain	8	Œdema of the Lungs	1
Cancer of Womb	4	Fever Nervous	2	Old Age	23
Catarrh	7	Fever Puerperal	1	Paralysis	3
Cholera	6	Fever Remittent	5	Peritonitis	4
Cholera Infantum	4	Fever Scarlet	3	Pericarditis	1
Cholera Morbus	8	Fever Typhoid	18	Pleurisy	5
Cirrhosis of Liver	1	Fever Typhus	2	Pneumonia	103
Colic	4	Fracture of Leg	1	Pneumonia Typhoid	5
Compression of the Brain	3	Gangrene	1	Poison	1
Concussion of the Brain	1	Gengrene Senile	1	Premature Birth	8
Congestion of the Bowels	4	Gangrene of Mouth	1	Phlebitis	1
Congestion of the Brain	17	Gangrene of Lungs	2	Paralysis	2
Congestion of the Lungs	9	Gastro-Enteritis	18	Paraplegia	1
Consumption	157	Gout	1	Rheumatism	4
Convulsions	1	Hæmorrhage	3	Stomach Disease	1
Convulsions Adult	3	Hæmorrhage of Lungs	3	Scurvy	1
Convulsions Infantile	41	Hæmorrhage Stomach	2	Small pox	21
Cyanosis	1	Hæmorrhage Womb	4	Softening of the Brain	5
Croup	22	Heart, Disease of	29	Stillborn	89
Debility	5	Heart Enlargement	1	Strangulated	1
Debility Adult	13	Hepatitis	5	Suffocation	1
Debility Infantile	10	Hooping Cough	7	Suicide	4
Delirium Tremens	4	Hydrocephalus	6	Teething	10
Diarrhœa	13	Hæmaturia	1	Tris Nascentium	61
Diarrhœa Acute	4	Inflammation of Bowels	6	Tumor of Brain	1
Diarrhœa Chronic	12	Inflammation of Brain	7	Tabes Mesenterica	3
Dropsy	10	Inflammation of Kidneys	1	Ulceration of the Throat	1
Dropsy in the Chest	1	Inflammation of Liver	1	Unknown	26
Dropsy in the Abdomen	1	Inflammation of Lungs	4	Varioloid	6
Drowned	15	Inflammation of Stomach	1	Wounds	1
Dysentery	10	Inflammation of Womb	2	Wounds, Gunshot	2
Dysentery Acute	1	Intemperance	3	Not stated	11
Total					1160

AGES.		AGES.		AGES.	
Under 1 year	307	25 to 30 years	65	80 to 90 years	22
1 to 2 years	63	30 to 40 years	133	90 to 100 years	2
2 to 5 years	58	40 to 50 years	140	100 and upwards	2
5 to 10 years	31	50 to 60 years	95	Unknown	44
10 to 15 years	21	60 to 70 years	63		
15 to 20 years	27	70 to 80 years	29	Total	1160
20 to 25 years	48				

NATIVITIES.		NATIVITIES.		NATIVITIES.	
Africa	3	Holland	2	Switzerland	3
Austria	3	Ireland	141	United States	592
Bohemia	1	Italy	7	Unknown	1
Canada	2	Norway	1	Wales	1
Denmark	2	Prussia	8	West Indies	2
England	15	Scotland	6	Not stated	227
France	29	Spain	10		
Germany	65	Sicily	1	Total	1160

Whites—788. **Blacks**—251. **Mulattoes**—102. **Not stated**—19. **Total**—1160.

Compiled from Weekly Reports of Board of Health, by L. H. Cohen, M. D.

Digitized by Google

BOOKS AND PAMPHLETS

"A Practical Treatise on the Physical Exploration of the Chest, and the Diagnosis of Diseases Affecting the Respiratory Organs. By AUSTIN FLINT, M. D., Professor of the Principles and Practice of Medicine in the Bellevue Hospital Medical College, and in the Long Island College Hospital, etc., etc. Second Edition, Revised; Philadelphia, Henry C. Lea, 1866, 8vo., pp. 595."

THE first edition of this work appeared ten years ago. Since that time it has become a standard treatise on the diagnostic signs of diseases of the lungs. The interval has been laboriously employed by the author, and the results of that experience are given us in this volume, which will be found to contain some new and useful matter. It will be generally conceeded, we think, that the author has done the science of diagnosis an important service in calling attention to the practical value of the differences of pitch, by means of which, conjoined with those of quality, a variety of respiratory signs, heretofore confounded, may be discriminated. An additional feature of novelty is the introduction of signs, produced by the whispered voice. They are generally available, and of special service in those cases where, from general debility or laryngeal disease, the patient is unable to speak in a loud voice. We particularly approve of the plan of discarding all *a priori* interpretation of signs whether by analogy or as deductions from physical laws; holding, as we do firmly, with the author, the belief, that the constant association of an abnormal sound with a special physical condition is the only rustworthy proof of their relation as effect and cause.

It would be superfluous to review and impertinent to praise a book so widely and favorably known; but we may express our regret, in passing, that so excelllent and otherwise well-written a book, should be blurred by some clerical errors, which seem to have escaped the author's notice in revision. Such as the use of the word *object* in line 5, and, again, in line 10, on page 23, where it is clearly unphilosophical. The "*immediate object*" of inspiration and expiration is to effect an interchange between the carbonic acid of the blood and the oxygen of the atmospheric air.

On line 9, page 142 the use of *size* for *capacity*, is very doubtful, since the left primary bronchus, though twice as long as the right, has one-fourth less diameter. There are other minor blemishes scarcely worthy of mention, which we trust will disappear in the next edition. That it will pass through many such is our hope and confident expectation, for it is the best *treatise* we have in the English language on the subject which it illustrates.

J. D. B.

"A Manual of Auscultation and Percussion. By MM. BARTH and HENRI ROGER. Translated from the sixth French edition. Philadelphia, Lindsay & Blakiston, 1866, 12mo., pp. 161.

ONE of those little books whittled down from a large volume, usually described by the press as "very convenient to carry in the pocket," "highly

Digitized by Google

useful to beginners," etc. All that saves ink and reading. For ourselves, we have never seeen much gain in them. They are two condensed for the young student, just grappling with the difficulty of isolating and appreciating mixed or tumultuous sounds, and who wants illustration, explanation, a certain degree of excursiveness; and of very little more value to those who have mastered the principles of the method and are learning their application by daily experience. A good chart hung up in the ward of the hospital, or in the chamber of the student, where it can be constantly referred to until it is stamped in on the brain, is much more serviceable, to our thinking. MM. Barth and Roger are accomplished teachers and eminent diagnosticians; but it is impossible that in so short a space they could give a satisfactory account of the various signs elicited by auscultation and percussion; and as a key to their differential value in diagnosis, after the beginner has learned to discriminate them, it wants that luminous definition which the chart gives at a *coup d'œil*. If a big book is sometimes a great evil, a little book is not always a great good.

J. D. B.

"Notes on Epidemics. For the use of the public. By FRANCIS EDMUND ANSTIE, M.D., F.R.C.P., Junior Physician to the Westminster Hospital: First American Edition, Philadelphia, J. B. Lippincott & Co., 1866, 12mo., pp. 95, through Blelock & Co."

THIS little volume attracted general notice on its first appearance as an essay, in the January number of the British Quarterly Review, by its remarkable lucidity of style and clever handling. The author has since expanded it into the form it now wears, in the hope that it might prove of public service in directing the attention of those living in great cities to the prominent features of that important class of epidemic diseases to which they are specially liable. It proposes to do no more than point out the probable origin of these, their modes of invasion and propagation, the signs by which they can be recognized and the means of arresting their spread, with some general directions in regard to their early management.

With the exception of the author's views concerning the identity of typhus and yellow fever, which a personal acquaintance with the latter would soon correct, we cordially endorse his essay, and would regard its diffusion as a sign of awakening interest in a subject which, year by year, is assuming a higher importance to the growing communities of our New World as well as the Old. Of this, however, we have little hope. The popular apathy is amazing, when we consider the annual mortality that might be suppressed by a very moderate degree of attention to those laws of hygiene which are now so well ascertained. For ourselves, we regard it as a bootless task to attempt to arouse even the special guardians of the public health to anything like efficient action.

The ignorance of official bodies on these matters is so notorious that comment would be superfluous; but their supineness is still more incredible when we reflect that they share a common interest in every danger that threatens their fellow-citizens. Yet how shall we condemn the blunders and stupidity of corporations, when we find members of our own profession, who are supposed to be authorities on such subjects, broadcasting the grossest and most palpable errors. It was but the other day that a member of our State Legislature, himself a physician

Digitized by Google

opposed the removal of slaughter-houses—whose offal, emptied into the river, is deposited for miles along the banks of our city, festering under an almost tropical summer heat, and infecting the water drunk by a considerable portion of our inhabitants—to some point of safety below, on the ground that decomposing animal matters are never a source of disease. Than which proposition, nothing could be more monstrous or dangerous, unless we except the illustrations by which he supported his reckless assertion.

To the wise—who do not need it—we commend Dr. Anstie's book as a very readable, pleasant and instructive essay. To the foolish we offer the earnest hope, that the day may come, though it will certainly be "far on in summers that we shall not see," when communities will become enlightened, and corporations intelligent, and officials vigilant, and when the public health will be looked upon by its constituted guardians as a subject of vital moment, not beneath their most earnest and educated concern.

J. D. B.

"Inhalation in the Treatment of Diseases of the Respiratory Passages, Particularly as Effected by the use of Atomized Fluid. By J. M. Da Costa, M. D. Philadelphia, J. B. Lippincott & Co., 1867, 12mo., pp. 86.

Those interested in this subject will find in Dr. Da Costa's essay, an appreciative demand for which has induced him to republish it from the New York Medical Journal, a very clear and instructive account of the different instruments for atomizing fluids, and of the class of cases in which the latter have been found useful. The conclusions at which he has arrived are the results of his personal experience, and he has illustrated them by a very satisfactory history of a variety of cases in which inhalations of medicated liquids have proved serviceable. In the main we agree with his views, looking upon this remedy as an adjunct merely to our general treatment in many affections, and as of comparatively little value, if not positively injurious, in most acute diseases of the air passages. But we think he has rather underrated their value in chronic diseases. A considerable experience with them has satisfied us of their very high utility in most long-standing catarrhal affections of the larynx and bronchial tubes. It is rarely that, by an intelligent use of remedies directed after this method, and steadily persevered in, we have failed in relieving chronic inflammations and congestions of the fauces, the upper part of the pharynx, and the respiratory passages. Like all therapeutic means, however, it requires experience and tact in its management to obtain satisfactory results.

J. D. B.

"Contributions to the Pathology, Diagnosis and Treatment of Angular Curvature of the Spine. By Benj. Gill, M.D., 129 pages; 1867. J. B. Lippincott & Co., Philadelphia; Blelock & Co., New Orleans."

"The Transactions of the American Medical Association, vol. xvii, 1866, 710 pages. James Gresham, New Orleans."

"Practical Dissections, by Richard M. Hodges, M.D. Second edition, thoroughly revised, 286 pages, 1867. Henry C. Lea, Philadelphia."

Digitized by Google

"On the Action of Medicines in the System. By FREDERICK WILLIAM HEADLAND, M.D., B.A., F.L.S., etc. Fifth American from fourth London Edition, Revised and Enlarged, 428 pages, 1867. Lindsay & Blakiston, Philiadelphia."

"The Science and Practice of Medicine. By WILLIAM AITKEN, M.D., Edin. Prof. of Pathology in the Army Medical School, etc. In two volumes, from the Fourth London Edition, with Additions by MEREDITH CLYMER, M.D., etc., vol. ii, 1114 pages, 1866. Lindsay & Blakiston, Philadelphia; Jas. Gresham, New Orleans."

"Diphtheria, a Prize Essay. By E. S. GAILLARD, Richmond, Va., 1867, 114 pages."

"Treatment of Fracture of the Lower Jaw, by Interdental Splints. By Thomas Brian Gunning, New York, 40 pages, 1866."

"The Physical Geography of the North Pacific Ocean, the Peculiarities of its Circulation and their Relation to the Climate of the Pacific Coast of the United States. By WM. HENRY DOUGHTY, M.D., Augusta, Ga., 1867, 27 pages."

"A Classified Priced Catalogue of Medical Books, Instruments, etc. Medical and Surgical Reporter, Philadelphia, 1867."

"Report of the Board of Health of the City of New Orleans to the State Legislature, January, 1867."

"Minutes of the Proceedings of Thirteenth Annual Meeting of the Medical Society of State of North Carolina, Wilmington, N. C., 1867."

"Researches upon Spurious Vaccination, or the Abnormal Phenomena Accompanying and Following Vaccination in the Confederate Army, 1861–1865. By JOSEPH JONES, M.D., Prof. of Physiology, etc., University of Nashville, Tenn., 1867, 136 pages."

"Fifteenth Annual Report of the Board of Water Commissioners, Detroit, Michigan, 1867, from Dr. Wm. Brodie."

EXCHANGES.

Richmond Medical Journal; London Lancet; Savannah Journal of Medicine; Buffalo Medical and Surgical Journal; Galveston Medical Journal; Boston Medical and Surgical Journal; Medical and Surgical Reporter; Cincinnati Journal of Medicine; Detroit Review; New York Medical Journal; Atlanta Medical and Surgical Journal; American Journal Medical Sciences; Medical News and Library; Chicago Medical Examiner; Cincinnati Lancet and Observer; St. Louis Medical and Surgical Journal; Medical Record, N. Y.; Braithwaite's Retrospect; Chicago Medical Journal; N. O. Medical and Surgical Journal; Dental Register; Pacific Medical and Surgical Journal and Press; Medical Reporter (St. Louis); Southern Medical and Surgical Journal; American Journal of Pharmacy; Dental Cosmos; American Journal of Insanity; Journal of Materia Medica; Nashville Journal Medicine and Surgery; Canada Medical Journal; Druggist's Circular and Chemical Gazette; Medical and Surgical Pioneer (Kansas).

Digitized by Google

SOUTHERN JOURNAL

OF THE

MEDICAL SCIENCES.

AUGUST, 1867.

ORIGINAL COMMUNICATIONS.

ART. I.—*Notes Relating to the Influence Disease has upon the Weight of the Human Body, and expressing the Results of a Series of Experiments undertaken at the Charity Hospital, Paris, under the Direction of Professor Monneret, in the years* 1865, '66, '67: By THOS. LAYTON, Interne, etc., Paris.

AMONG the numerous methods of experimental investigation which have of late years been added to the resources of the practitioner in establishing diagnosis and forming prognosis, some result from mechanical ingenuity, whilst others are derived from a knowledge of optics and the other branches of natural philosophy. The utility of these means is sufficiently proved by the eagerness with which the advent of successive appliances of this nature is hailed. When, as frequently happens in using thermometrical research, in typhoid fever for instance, after a few days illness, the physician, in doubtful cases, is enabled to make an almost certain diagnosis, and, often, to form a prognosis, which the future evolution of symptoms confirms, how speedily anxiety may be allayed! If danger be at hand—and experience has shown the truth of these warnings given by the instrument—how much precious time may be gained to combat at a seasonable moment the various forms of disease.

In the hospitals of this city, the clinical teachers avail themselves of the assistance to be derived from these sources, and the thermometer,

Digitized by Google

sphygmograph, etc., are daily employed. For some time past, Professor Monneret has had the idea of investigating the influence a morbid state of health has upon the weight of the human body, and he counselled me to undertake a series of experiments upon this curious subject. To facilitate my researches, he placed his wards at my command with a liberality for which my sincere thanks are due, and occasionally assisted me with his advice and experience. My object in the following lines is to relate briefly a few of the results which are derived from my observations. When we reflect how intimately the functions of nutrition are connected with and influenced by the different agents which assail the healthy state, theoretically it will require but a slight effort of the imagination to conceive that alterations of the nutritive process will readily find expression by acting variously, according to the nature of the alteration, upon the weight. It is this idea which has been the starting point, from which practice speedily demonstrated the correctness of the theory.

I have adopted a uniform manner of proceeding in weighing those patients who come under observation. A pair of good scales, which give very small weights—5 or 10 grammes, *a drachm avoirdupois being equivalent to* 1.7712 *gramme*—has been placed by M. Monneret in each ward; the patients are weighed once a day, or oftener, as the case may require, and care is taken that the costume worn be constantly the same. An hour, too, is selected in the morning, when the patients have not broken their fast, so as to render comparison possible between the results obtained. In cases of fever, the scales, supporting an arm-chair, are placed at the bedside. Every one is aware of the relief the sufferer experiences on being removed from a heated pillow to a freshly made bed, and hence the adoption of this practice by many. It is at the moment that the patient is to be removed to the cool bed that he is wrapped in a blanket and seated upon the scales. A few seconds suffice for the operation, which has never been fraught with unfavorable consequences, though it has been frequently employed. It may be urged, however, that this system of weighing cannot be introduced into general use, and that on this account it should be discarded. There is some truth in the first objection, but it will always be easy to weigh patients in hospitals, and the results furnished by a series of weights are so extremely curious and tell with such precision the effects of different agencies upon the health, that it will, perhaps, be well not to condemn this method upon slight grounds, as I will endeavor to show by a few examples.

Digitized by Google

During the recent discussion at the Academy of Medicine, upon the mortality of nurslings, two resident students of the Paris hospitals, Messrs. Odier and Blache, Jr., sent in a note upon the causes and means of preventing or diminishing, at least, the large proportion of deaths statistical tables show to be distributed among babies given out to nurse. These gentlemen propose that a system of *obligatory weighing* be imposed by law on those persons, to whose remunerated attentions children are entrusted. When the child is given out to a nurse, it should be weighed, and its weight to be inscribed upon a memorandum to remain in the hands of the village authorities. Once a week a medical inspector would attend to the weighing of the children, and thus each child would present a series of weights, from which indications as to its nutrition and health could be drawn. Certain laws which govern the weight of infants have been laid down by careful observers, and it is possible, by comparing these laws *with the series of weights*, to say positively whether the child, in each individual instance, is in a prosperous or unhealthy condition. The necessity of checking the heartless cruelty of hired nurses which has recently called for energetic repression in France, has, of course given rise to many projects of reform, and amongst others, to that of Messrs. Odier and Blache, which I mention as confirming what I myself have repeatedly observed, viz., that every alteration of nutrition tells upon the weight, with a rapidity in proportion to the alteration.

I had not collected many observations without being more and more strongly impressed with the truth practice stamped upon the data of theory. I enjoyed at the outset of my investigations, the opportunity of experimenting upon the weights of a perfectly healthy person, who subjected himself to different trials in order to test their influence. The results obtained did not surprise me in themselves, but I was far from anticipating the marked departures I noted from the *usual* weight which had been previously ascertained. Thus, forced marches brought the weight down, on one occasion, 350 grammes, and on another, 680 grammes (one pound avoirdupois is equivalent to 453.4148 grammes). I give these two instances merely to show the loss which attends muscular fatigue, but I do not pretend, in offering the above figures, to determine the ratio existing between muscular fatigue and loss of weight. This ratio is dependent on so many causes, that I can merely mention here their multiple nature. In the same observation, fatigue resulting from intellectual labor coupled with want of sleep, had a notable influence upon the weight. Thus, at a certain moment, press of

Digitized by Google

work permitted only four hours sleep to be taken out of the twenty-four; nearly the whole day was employed in the composition of a manuscript. The weights were carefully taken immediately before and after the completion of this task, and 570 grammes were found to have been lost in 24 hours. The effect of purgatives was equally curious. I say nothing here of privation of food, my intention being a little lower down to detail the effects of inanition due to pathological conditions. Hunger and thirst, whether due to accident, as happened to the mariners on the raft of the *Medusa*, or to disease, tell a disastrous tale upon weight which gives, as it were, the measure of the sufferings endured. To return, however, to the experiment related above, I was surprised to see how rapidly the weight regained its usual standard, whenever the disturbing cause ceased to act, and the habitual manner of living was resumed. The explanation was readily found in the fact, that the person under experiment was in good health, and I have since remarked that in similar cases, a series of weights, taken daily for a considerable length of time, is generally uniform in its results, save when unusual circumstances entail a change in the mode of life.

After having witnessed how exactly the weight of a *healthy man*, related the various departures from the customary regimen, I concluded that a diseased state must act still more strikingly, and the truth of this idea I will endeavor to expose by giving examples of the observations supplied by the patients in M. Monneret's wards.

I had not been experimenting long before adopting a series of divisions, which presented themselves naturally, and which, it seems to me, admit of four principal chapters. The two first are afforded by *acute* and *chronic* diseases, the third is due to the effects of the therapeutical agents employed, whilst the fourth is furnished by those accidents owing to which an acute affection is grafted upon a chronic malady, for instance. A few observations will, I trust, illustrate each element of the foregoing classification.

1st. With regard to acute diseases, two principal periods are noticed in their occurrence, viz: the periods of *loss* and *reparation*. The former I have rarely been able to observe during its whole duration, as when a patient enters the hospital he has often been unwell for some days. Whilst this period lasts, the weight, as a rule, lessens rapidly, and from the proportion of its diurnal variations, a good idea may be formed of the relative gravity of the case. In his description of typhoid fever, M. Monneret mentions this loss of weight observed, and states that he has met with a decrease of 500 grammes per diem, during ten days or

Digitized by Google

more. I have also obtained similar results, and in some cases have remarked a still greater falling off daily. Generally, the greater the danger the greater also and more rapid is the loss of weight. This requires no explanation. I have already described the method which is followed in M. Monneret's wards in weighing fever patients, and I repeat that when the experiment is conducted in the manner I have detailed, it presents little or no danger. During the period of reparation, the weight regains what it has lost under the influence of fever and other debilitating causes. This increase in weight is at times sudden and unexpected in its appearance, and is ushered in before other symptoms would warrant the announcement of convalescence. This fact is so striking, that but little hesitation need be felt in declaring convalescent the patient whose weight begins to ascend, even though from the indications usually accepted, this announcement may seem premature. The series of weights taken during convalescence furnish the means of knowing whether this state of reparation will be short or tedious, as a steady and rapid augmentation accompanies a speedy return to health, while the contrary obtains when the intermediary condition between health and disease is destined to drag on slowly. I have made these observations on weight coincide with thermometrical investigation, and have found that an elevation of temperature is attended by a diminution of weight; or in other terms, the higher the fever the lower is the figure given by the scales. I will conclude these remarks upon acute disease by offering a few observations on typhoid fever, pneumonia and acute articular rheumatism. In weighing the patients, care has always been taken to weigh them in the same costume. In those instances where it was necessary to use the arm chair, its weight and that of the blanket have been deducted.

OBS. No. 1—TYPHOID FEVER.

Period of Loss.

Dates, 1866.	Weights kilogrammes
Aug. 11	60.700
" 12	60.400
" 13	60.200
" 14	59.820
" 15	59.700
Aug. 16	59.300
" 17	59.000
" 18	58.550
" 19	58.150

Period of Reparation.

Dates, 1866.	Weights kilogrammes
Aug. 20	58.300
" 21	58.500
" 22	58.700
" 23	58.900
" 24	59 200
" 25	59.500
" 26	59.600
" 27	59.700
" 28	59.500
" 29	59.600
" 30	59.600
" 31	59.800
Sept. 1	59.900

Digitized by Google

Clinical Notes.—The patient had been ill for several days before entering the hospital. Diarrhœa on the 28th, checked by the subnitrate of bismuth. This is given as a specimen of a light form of typhoid fever. In fever cases, M. Monneret adopts the stimulating plan of treatment from the very outset. To the period of loss must be added the number of days which elapsed before the patient applied for admission, and during which the weight must have decreased.

Discharged September 1, improving rapidly.

OBS. No. 2.—TYPHOID FEVER.

Period of Loss.		*Period of Reparation.*	
Dates, 1866.	Weights kilogrammes	Dates, 1866.	Weights kilogrammes
Jan. 12	59 370	Jan. 28	52.920
" 13	58.900	" 29	53 400
" 14	58.300	" 30	53.670
" 15	57.600	" 31	53.890
" 16	56 890	Feb. 2	54.450
" 17	56.200	" 5	54.990
" 18	55.450	" 7	54.740
" 20	54.700	" 13	55.000
" 22	53.750		
" 24	52.970		
" 25	53.000		
" 26	52.700		
" 27	52.600		

Clinical Notes.—Patient ill 7 days before admission.

January 12th. ℞ Tartar Emetic, gr. ij.

13th.—Vomiting, and three stools yesterday; give a purgative today. These remedies are called for by a bilious complication. ℞ Sulphate of quinine, gr. xij.

14th. Three passages yesterday.

15th. Delirious, high fever.

16th. Same state; debility, notwithstanding the stimulating treatment.

26th. Patient doing better.

28th. It will be seen that during the past few days, the rapidity of the diminution of weight has become less marked, and this morning there is an ascension. From the 28th of January to the 5th February, the weight increased constantly. From the 7th to the 13th, I could not weigh the patient owing to an accident which had happened to the scales. On the 13th February, the patient was doing well; he demanded his discharge. It must be remembered that the disease had

Digitized by Google

declared itself seven days before admission into the hospital, and that probably the loss of weight is still greater than that which I have indicated.

OBS. No. 3.—PNEUMONIA.

Period of Loss.		*Period of Reparation.*	
Dates, 1866.	Weights kilogrammes	Dates, 1866.	Weights kilogrammes
Feb. 21	44 900	Mar. 3	43.300
" 22	44.300	" 4	43.400
" 23	43.850	" 5	43.400
" 24	43.600	" 6	43.550
" 25	43.400	" 7	43.600
" 26	43.300	" 8	43.600
" 27	43.300	" 9	43.650
" 28	43.350	" 10	43.900
Mar. 1	43.450	" 11	44.170
" 2	43.200	" 12	44 400
		" 13	44.570
		" 14	44.750

Clinical Notes.—The patient had been sick five days before coming to the hospital.

February 21st. ℞ Tartar Emetic, gr. v, in a draught to be administered by tablespoonful, one every hour.

22d.—Vomited much and had three stools yesterday. The usual stimulating treatment is adopted to-day.

23d.—Vomited again yesterday. It will be seen that I considered the period of loss to have lasted till the 2d March, on which day the scales furnished the lowest figure. Nothing particular to note during the second period. Patient discharged convalescent on March 14th. It will be remembered that he had been ill five days before admission, as also that the initial and terminal weights do not present much difference.

OBS. 4.—ACUTE ARTICULAR RHEUMATISM.

Period of Loss.		*Period of Reparation.*	
Dates, 1866.	Weights. kilogrammes	Dates, 1866.	Weights. kilogrammes
Jan. 6	54.610	Jan. 26	49 300
" 8	54.600	" 28	49.600
" 10	53.500	" 30	50.100
" 12	52.800	Feb. 1	50.600
" 14	52.200	" 2	50 900
" 16	51.500	" 3	51.220
" 18	50.600	" 4	51.400
" 20	50.100	" 5	51.600
" 22	49.550		
" 24	49.150		

Digitized by Google

Clinical Notes.—Stimulating treatment adopted. The decrease of weight here seems due, 1st, to the fever which was high, 2d, to the abundance of the perspiration. It will be noticed how considerable the loss of weight is on one hand, and on the other how speedily it ascended during the second period. The patient was discharged at his request on February 5th.

This observation closes the series of cases I offer of acute disease. Not wishing to give undue length to this paper, I have contented myself with giving the series of weights and a few clinical notes. My intention is not to dilate upon each observation, but merely at present to show the general results at which I have arrived. Neither do I intend in this place subdividing the two principal periods of loss and reparation. My object is to show the existence of these periods, and the great difference they present. I have been led to adopt this division from a large number of observations in which they are distinctly marked.

2d. With reference to chronic disease, it is at once evident that there must be almost as many varieties as there are forms of malady, for in such cases the patient undergoes alternations of remission and exacerbation with which the weight corresponds, and it not unfrequently happens that the advent of unpropitious symptoms may be foreseen by the decline of the weight, whilst no other species of warning will perhaps be given until some days later.

Some chronic diseases follow a uniform path, and terminate fatally and speedily in every instance. Others, on the contrary, may drag on for years, whilst a third category seems to be divided into periods, during a portion of which the general health, and, as a physiological consequence, the weight do not undergo much alteration. The time comes, however, when these early stages merge gradually into more advanced forms; then the whole organism falls under the sway of the affection, and its suffering in proportion to its intensity bears at once upon the weight. I will select an example of the first class named above from organic affections of the digestive organs. In mentioning their speedy termination, it will be understood that I refer to hospital patients who, when laboring under such complaints, usually apply for admission after the disease has made some progress. I place in the second division uterine and other maladies of whose peculiarly chronic character there can be no doubt. Unfortunately I have not as yet been so placed as to enable me to investigate this subject as carefully as I

Digitized by Google

ANNUAL CIRCULAR.

New Orleans School of Medicine.

COURSE OF LECTURES FOR 1867-68.

FACULTY.

D. WARREN BRICKELL, M. D., Professor of Obstetrics and Diseases of Women and Children.

HOWARD SMITH, M. D., Professor of Materia Medica.

I. L. CRAWCOUR, M. D., Professor of the Principles and Practice of Medicine.

ALFRED C. HOLT, M. D., Professor of Clinical Medicine.

A. E. PETICOLAS, M. D., Professor of Anatomy.

J. DICKSON BRUNS, M. D., Professor of Physiology and Pathology.

SAM'L LOGAN, M. D., Professor of Surgery.

The Chair of Medical Chemistry, etc., will be properly filled at an early day.

W. S. MITCHELL, M. D., Professor of Ophthalmic Medicine and Surgery.

ALFRED W. PERRY, M. D.,
J. B. DAVIS, M. D., } Demonstrators of Anatomy.

Digitized by Google

ASSISTANT FACULTY.

JOSEPH HOLT, M. D.—Obstetrics, etc.

JOHN W. CALDWELL, M. D.—Materia Medica and Therapeutics.

LÆ GRAND G. CAPERS, M. D.—Surgery.

ALFRED W. PERRY, M. D.—Practice and Clinical Medicine.

L. H. COHEN, M. D.—Chemistry.

J. B. DAVIS, M. D.—Anatomy.

The Twelfth Annual Course of Lectures in this Institution will begin on the 11th day of November next, and will end on the 16th day of March ensuing.

A Preliminary Course of Lectures will begin on the 15th day of October next, and will be free to all persons.

The Faculty of this Institution are visiting Physicians and Surgeons to the great Charity Hospital of New Orleans, and, under the liberal and enlightened laws of the State of Louisiana, are expressly given free access to the material of the Hospital for the purpose of imparting practical instruction to their pupils.

This School was the first in the country to adopt the course of *daily bedside instruction* of Students of Medicine, and the Faculty feel a special pride in having, by inaugurating this system, brought about the development of the superior clinical advantages of New Orleans and made her the Medical Centre of the South.

By special enactment of the Legislature of the State, the Faculty have free access to the material of the Hospital, and it is most thoroughly available, as the School is at its very door, and valuable time is thus economized.

The Professors of Surgery, Practice, Clinical Medicine, Obstetrics, Physiology, Ophthalmic Medicine, etc., and Anatomy, give clinical instruction, thus enabling the class to have absolute access to the sick of every variety. No stress is laid on *amphitheatre clinics*, wherein the student must, of necessity, be denied the education of his senses and have afterwards to reflect that his hospital instruction was only such in name.

Digitized by Google

The great aim of the Faculty is to send the graduate out at once qualified to *practice* his profession, and this is impossible unless he has educated his senses to recognize disease.

There are *nine* full and complete Chairs in this Institution, and the didactic course will be thorough; but, in order to fully impress the lessons given, the Faculty have organized an Assistant Corps, whose duty it will be to hold daily examinations in the more practical branches. This Course will be free to the Student, and its great importance is manifest.

The Anatomical Rooms of the School are in all respects unsurpassed in the world, and material is not only abundant, but will be furnished without cost to the Student.

Fourteen "Resident Students" of Medicine are annually elected to the Charity Hospital, and the recent wise and enlightened course of the Board of Administrators of that Institution gives reason for believing that, in the future, these invaluable positions will be filled by resort to competitive examination only. Residence in the Hospital being free of expense, and the material for instruction without limit, such a position is invaluable to the ambitious student.

Advanced Students and Graduates will find in the School every facility for the study of the different specialties, and the large library of the institution, with ample supply of all the medical periodicals of the day, foreign and domestic, offers the best field to the searcher after special professional knowledge.

TERMS:

For all the Lecture Tickets	$140 00
For Demonstrator's Ticket	10 00
Matriculation, (paid but once)	5 00
Diploma in Medicine	30 00
Diploma in Pharmacy	15 00

All to be paid in advance.

Digitized by Google

The candidate for graduation must be twenty-one years of age; must have been engaged in the study of Medicine during three years; must have attended at least two full courses of lectures in an accredited School, the last course being in this School; and must undergo a satisfactory examination before each member of the Faculty separately.

Board and lodging can be as cheaply procured in New Orleans as in any other large city in the country.

D. WARREN BRICKELL, M. D.,
Dean of the Faculty.

W. S. MITCHELL, M. D., *Secretary.*

P. S.—Students, on arriving in the city, will find the Dean or his representatives at the College building, Common street, immediately opposite the door of the Hospital. The Janitor of the College will be prepared to assist them in procuring board and lodging, and will always be found in the building.

LIST OF MATRICULATES,

Session 1866-67.

ALLEN, W. S .....Texas.
ALEXANDER, H. L..... ....Mississippi.

BERTIN, J. J.....Louisiana.
BEAZLEY, A. J.....Mississippi.
BEASLEY, A. E.....Georgia.
BAYLISS, R. H.....Louisiana.
BORDIS, G. C..... "
BAIN, J. E .....Mississippi.
BURR, R. T..... .....Louisiana.
BUTLER, GEO. H., M. D.....U. S. N.
BEAZLEY, W. HERBERT.....Texas.

Digitized by Google

BUCK, W. S .....Mississippi.
BAKER, E. H.....Louisiana.
BAUGH, A. S., M. D.....Mississippi.
BIXLER, J. B.....Louisiana.

CONNELL, A.....Georgia.
CONN, B. F.....Mississippi.
CURRIE, M. M.....Louisiana.
CROOK, W. E.....Alabama.
CRAWFORD, J. A .....Mississippi.
COLEMAN, T. M.....Louisiana.
CAPSHAW, PRESTON, M. D.....Alabama.
COWDIN, T. N.....Mississippi.
CORNELIUS, M. A., M. D .....Louisiana.
CROW, M. S.....Texas.

DABNEY, B.....Mississippi.
DUPAQUIER, A., M. D.....Louisiana.
DREW, E. S., M. D..... "
DUFF, J. B..... "
DUBOSE, S. B..... "
DAVIS, G. W..... "
DOWNS, H. L., M. D.....New York.
DE POINCY, F. A.....Louisiana.

EARLY, T. P .....Texas.
EVERETT, Z. LEA.....Mississippi.

FURNISS, J. P., M. D.....Alabama.
FARRINGTON, W. O .....Arkansas.

GATES, ALF. S.....Louisiana.
GIFFEN, R. C..... "
GREEN, H. L.....Louisiana.
GREEN, C. S..... "
GULLEDGE, F. H.....Mississippi.
GREEN, GEO. H.....Mississippi.
GRAVES, W. W ..... "

Digitized by Google

GRIFFIN, C. H.....Louisiana.
GOODWIN, W. H.....Arkansas.

HOLMES, W. C.....Mississippi.
HOWE, GEO., M. D.....Louisiana.
HARRIS, E. H., M. D.....Iowa.
HERSHEY, D., M. D .....New York.
HARPER, A. G.....Louisiana.
HERRING, A. H.....Georgia.
HARPER, J. D., M. D .....Louisiana.
HELPST, NUMA M ..... "

JAMESON, R. A.....Texas.

KNIGHT, C. J.....Alabama.
KELLY, J. F.....Louisiana.

LANCASTER, J. R.....Arkansas.
LANDRY, A A.....Louisiana.
LONGMIRE, W. M.....Alabama.

McKINNIE, T. H.....Louisiana.
MORRIS, JAMES E..... "
MURPHY, ED. A., M. D..... "
MIDDLETON, J. C .....Mississippi.
MARTIN, JNO. H..... ....Tennessee.
MARSHALL, T. F.....Alabama.
MITCHELL, W. A..... "
MARTIN, F. M.....Mississippi.
McHENRY, M. J.....Louisiana.
MOODY, W. C.....Texas.
MOTELL, J. D.....Alabama.

NELMS, J. M.....Louisiana.

PEARSON, A. B.....Texas.
PINKSTON, C. L.....Alabama.
PORET, ISIDORE.....Louisiana.

Digitized by Google

PERKINS, A. N.....Texas.

RÈMY, P. L.....Louisiana.
RINGOOD, J. S..... "
RIDLEY, C. B.....Georgia.
ROOT, J. A.....Mississippi.
RANDOLPH, E. R.....Louisiana.
RAGAN, THOS. M..... "

STARK, LOUIS R.....Alabama.
STEWART, HENRY.....Louisiana.
SMITH, YEAMANS.....Mississippi.
STACKHOUSE, HENRY C..... "
STANCILL, R. M..... "
SLOAN, R. F.....Texas.
SWEARINGEN, R. M..... "
SANDIFER, J. B.....Arkansas.
SHORT, ROBT. D..... "
SMITH, GEO. W.....Mississippi.

THOMSON, RUFFIN.....Mississippi.
TREZEVANT, REMBERT.....Tennessee.
TREZEVANT, ROBT. B.....Arkansas.
TREZEVANT, GEO. T.....Louisiana.
TRENT, JOS. H.....Texas.
TOBIN, JNO. J., M. D.....Arkansas.
THORNHILL, J. M., M. D.....Mississippi.

UPSHAW, HARNEY.....Texas.
WILLIAMS, S. B.....Mississippi.
WALTON, R. BRUCE..... "
WEBB, W. T.....Louisiana.
WILLCOX, W. A..... "
WELLS, J. J.....Mississippi.
WEBB, Y. J., M. D.....Louisiana.
WEEKS, JAS. A..... "
WREN, W. J..... "

Digitized by Google

LIST OF GRADUATES.

Session 1866-67.

RUFFIN THOMSON	Mississippi.
JESSE M. NELMS	Louisiana.
T. W. COLEMAN	"
W. M. LONGMIRE	Alabama.
F. A. De POINCY	Louisiana.
W. H. BEAZLEY	Texas.
T. M. RAGAN	Louisiana.
R. M. SWEARINGEN	Texas.
R. M. STANCILL	Mississippi.
W. C. HOLMES	"
W. W. GRAVES	"
J. A. ROOT	"
BENJ. F. CONN	"
E. H. BAKER	Louisiana.
J. F. KELLY	"
A. A. LANDRY	"
H. L. ALEXANDER	Mississippi.
A. N. PERKINS	Alabama.
L. R. STARK	"
A. H. HERRING	Georgia.
C. H. GRIFFIN	Louisiana.
R. B. WALTON	Mississippi.
J. A. CRAWFORD	"
C. B. RIDLEY	Georgia.
R. B. TREZEVANT	Arkansas.
A. E. BEASLEY	Georgia.

Digitized by Google

would wish, and the results I have obtained, though indicating that this species of chronic disease has an influence upon weight, still do not yet warrant the forming of conclusions. This is owing to the circumstance that it would be necessary in cases of this kind to submit the patient to prolonged examination; this I have been unable to effect.

In the third division I place the class of affections of which pulmonary phthisis will serve as a type.

Organic maladies of the digestive organs have a very remarkable action upon the scales. Their wasting effects, due to continued vomiting and the lesion of the functions of nutrition, bring on a degree of inanition that increases till death comes to the relief of the victim. On seeing such patients I long felt curious to follow the progress of the disease, and watch its ravages by means of a series of weights. I have several times had occasion to collect observations of this kind, and I give below the list of figures obtained in two cases. I have noticed how little it requires to act upon the weight in instances of this nature, and the explanation suggests itself at once, for when an organism has long been the prey of such a foe, a disturbing cause, which in a state of comparative health would be unheeded, acts very unfavorably.

Obs. No. 5.—Chronic Ulcer of the Stomach.

Period of Loss.

Dates, 1866.	Weights kilogrammes
Jan. 19	51.750
" 20	51.500
" 21	51.250
" 22	51.100
" 23	50.970
" 24	50.820
" 25	50.700
Reparation.	
" 26	50.740
" 27	50.800
" 28	50.900
" 29	50.970
Loss.	
" 30	50.600
" 31	50.300
Feb. 1	50.000
" 2	49.700
Reparation.	
" 3	49.900
" 4	50.400
" 5	51.000
" 6	51.500

Period of Loss.

Dates, 1866.	Weights kilogrammes
Feb. 7	51.400
" 8	51.250
" 9	51.200
" 10	51.100
" 11	50.900
" 12	50.700
" 13	50.470
" 14	50.250
" 15	50.000
" 16	49.770
" 17	49.450
" 18	49.100
" 19	48.670
" 20	47.700
" 21	46.750
Reparation.	
" 22	47.100
" 23	47.000

Digitized by Google

Clinical Notes.—Jan. 19th. The patient, a book-binder, has been unwell since June last; he had previously been intemperate. On June 25th last, he was suddenly taken with vomiting; at present, he throws up frequently. Strict diet is ordered; he is, however, permitted to drink a small quantity of iced milk, and is given opiates. The vomiting continued until the 22d, and strict diet was observed until the 25th, the iced milk being, however, continued. On the 25th, he is allowed a little to eat. Immediately, the weight begins to increase. On the 29th the vomiting returned. Strict diet is again enforced, under the influence of which, as well as of occasional ejections, and a loss of blood from piles, the weight diminishes, till February 2d. That day, at his earnest request, the patient was allowed to take other food besides milk. The weight increases with rapidity till the 6th, when an indigestion occurred and gave the signal for a falling off in weight. Vomiting is frequent, notwithstanding opiates and privation of food. From the 19th to the 21st the patient insists upon eating. After a hearty meal on the 19th, without the consent of the infirmarian, he throws up repeatedly. This lasts till the 21st. During these two days the loss in weight is very considerable. After the 21st February the weight begins to augment a little, but on the 24th the patient leaves the hospital. At his departure inanition had made such progress that a very unfavorable prognosis was drawn as to the probable duration of the case.

OBS. 6.—CANCER OF THE STOMACH.

Dates, 1867.	Weights kilogrammes
Loss.	
Feb. 11	52.900
" 23	50.970
" 24	51.100
" 25	50.500
" 26	50.670
" 27	50.800
" 28	50.100
Gain.	
Mar. 1	49.250
" 2	50.100
Loss.	
" 3	48.950
" 4	48.020
" 5	46.550
" 6	44.950
" 7	44.200
Gain.	
Mar. 8	44.500
" 9	44.970
Loss.	
" 10	44.040
" 11	43.800
" 12	43.600
" 13	42.990
" 14	42.700
" 15	42.300
" 16	41.670
(Died March 16th, 1867.)	

Clinical Notes.—Feb. 11. Weight 52.500; from this day on to the 23d, occasional vomiting. On the 23d the vomiting became more frequent, and lasted almost without ceasing till March 1st, notwith-

Digitized by Google

standing every attempt at checking its progress. From the 1st to the 2d March, this accident ceased, and the patient retained the alimentary substances he had injected. The weight went up immediately, showing the tendency towards reparation, which manifested itself as soon as vomiting ceased. On the 3d March, however, this complication again appeared, and on the 7th the patient had become very weak. That day it was decided to administer two injections, one containing, 120 grammes of nutritious broth, and the other 120 grammes of the mixture, Bordeaux wine, 110 grammes, and brandy 10 grammes. These injections were retained by the patient. All the injesta and egesta were carefully weighed daily, and, on the 8th and 9th, the balance was found to be in favor of the *injesta* (among which were reckoned the injections), and in consequence, the weight increased. During the night, from the 9th to the 10th of March, however, the vomiting returned with unusual violence, and from the 10th till the 16th (on which day the patient died), the quantity of the *egesta* was constantly superior to that of the *injesta*, and as a consequence, the weight decreased rapidly until death. During the whole of this observation, the thermometer corresponded with the weight, i. e., that for some time before death 35° and a fraction were noted. It is known that in the healthy state the normal range of temperature is 37 centigrade degrees.

As regards pulmonary phthisis, from numerous observations I have been led to conclude that the weight *increases* during the *first* and a portion of the *second period.* Towards the close of the latter, however, and during the whole of the *third stage,* the weight decreases uniformly, as a rule, until death. In making the above statement as to the *increase* during the *first* and a portion of the *second* period, it will be remembered that I have collected my observations from the examination of hospital patients *only*—that is, from among a class of persons who receive good attendance, wholesome diet, and much better care in a hospital than they could for the most part procure in their own homes.

Reasoning from analogy, it is permitted to suppose that, in families whose suffering relatives are surrounded by every comfort and precaution of hygiene, the same result may be obtained, and be even still more striking; that is to say, that notwithstanding the indubitable presence of pulmonary disease, the weight will long continue at the same level. In families, this *stationary* condition of the weight is equivalent to *the increase* noted in the working class, which, upon admission into hospital, exchanges a life of toil and misery for repose, and wholesome diet and comfort.

Digitized by Google

Thus, were a new proof wanting of the utility of these hygienic means in the early stages of consumption, the scales would serve to establish the fact, giving as they do the mathematical demonstration of the increases of weight which, upon due allowance being made for accidental agencies, cannot obtain unless the general health and the different functions enter upon a state of improvement.

In the *third* period of phthisis, there are so many debilitating causes called into play, that the single mention of loss suffered by the weight will suffice without requiring explanation. I give below two observations of phthisis. In both instances I append merely the series of figures, which will permit the general result to be at once seen. I omit comments, which are unnecessary, and would only lengthen this paper needlessly.

Obs. No. 7.—Tubercules—1st Stage.

Dates, 1865–66.	Weights kilogrammes
Dec. 28	55.800
" 29	55.900
" 31	55.970
Jan. 1	55.900
" 2	55.900
" 3	56.040
" 5	56.200
" 7	56.200
" 8	56.100
" 9	56.300
" 10	56.400
" 11	56.400
" 12	56.450
" 13	56.500
" 14	56.600
" 16	56.750
" 18	56.750
" 20	56.600
" 21	56.800
" 22	56.900
" 24	56.900
" 26	57.100
" 28	57.150
" 30	57.200
Feb. 1	57.300
" 2	57.500
" 3	57.670
" 4	57.800
" 5	58.000
" 6	58.170

(Discharged Feb. 6th, in an improved state.)

Obs. No. 8.—Tubercules—3d Stage.

Dates, 1665–66.	Weights kilogrammes
Dec. 26	59.450
" 28	59.100
" 30	58.800
" 31	58.600
Jan. 1	58.250
" 3	57.890
" 5	57.570
" 7	57.140
" 10	56.750
" 12	56.400
" 14	56.200
" 16	55.990
" 18	55.700
" 19	55.550

(Died during the night of the 19th or 20th January.)

Digitized by Google

3. In examining the third division, I will be brief, for it will be readily understood, that the different therapeutical agents, according to the nature of the effects they produce, tell upon the weight, either making it increase, or bringing about the contrary result.

I subjoin two examples, destined to show the influence of hydrotherapeutics and tartarized antimony.

Obs. No. 9.—Hysteria. Hydrotherapeutical Treatment.

Dates, 1867.	Weights kilogrammes	Dates, 1867.	Weights kilogrammes
Feb. 14	58.700	Jan. 20	60.000
" 15	58.700	" 21	60.300
" 16	58.600	" 22	60.000
" 17	59.300	" 23	60.000
" 18	59.740	" 24	60.500
" 19	59.800	" 25	60.900

Clinical Notes.—Discharged 25th February, in an improved condition. This improved condition was noticed even by the patient, who was unaware of the result given by the series of weights. The oscillations observed here can be accounted for, but I abstain from comment, as my object is merely to give an illustration of the action of hydrotherapeutics.

Obs. No. 10.—Pneumonia. Tartarized Antimony.

March 12—℞. Emetic, gr. iij. March 13—℞. Emetic, gr. v. March 14—℞. Emetic, gr. viij. In a draught, to be administered a tablespoonful each hour.

Dates, 1867.	Weights kilogrammes	Dates, 1867.	Weights kilogrammes
Mar. 12	59.700	" 16	54.000
" 13	58.550	" 17	53.800
" 14	56.790	" 18	54.400
" 15	55.450		

Patient still under observation.

Clinical Notes.—The effect of the tartarized antimony was very energetic, and told heavily upon the weight, as will be seen above. The doses were increased rapidly, in order to obtain the mastery over the symptoms of the disease. From the 16th to the 17th, the gr. viij was perfectly tolerated—this had not before occurred. On the morning of the 17th the proportion in the decrease of weight was found to have lessened, and the symptoms were improving. On that day, the draught containing the gr. viij of emetic was suspended and the patient was given wine, broth and soup. On the 18th the weight had increased.

Digitized by Google

4. The fourth division comprises those cases in which an acute affection complicates a chronic disease. (This division is artificial and adopted merely for the sake of order.) Here the weight, which had entered upon a series corresponding with the vicissitudes, the ups and downs of the original malady, suddenly diminishes more or less rapidly, proportionately with the character and intensity of the acute symptoms. Should these disappear entirely, the weight may either ascend to its former expression and resume its chronic series, or else the same may occur with this difference, that the organism, not recovering completely from the shock of the acute disease, the weight remains at a lower level than the one it reached when the acute attack supervened. I will give an example to show how an unexpected complication acts:

Obs. No. 11.—Lead Poisoning—7th Attack.

The patient is by profession a house painter.

Bilious symptoms and obstinate constipation, to combat which, July 18th, ℞ emetic, gr. iij; croton oil, gtts. iv.

Dates, 1866.	Weights kilogrammes	Dates, 1866.	Weights kilogrammes
July 18	50.150	July 29	47.500
" 19	49.400	" 30	47.300
" 20	49.100	" 31	47.200
" 21	49.300	Aug. 1	47.300
" 22	49.400	" 2	46.200
" 23	49.400	" 3	46.000
" 24	49.600	" 4	46.000
" 25	49.100	" 5	45.900
" 26	48.800	" 6	46.100
" 27	48.400	" 7	46.100
" 28	48.200	" 8	45.900

Clinical Notes.—The emetic and croton oil acted energetically, as will be seen at the begining of the series of weights; then the patient began gradually to improve. Cholera was, however, at that moment raging in the hospital, and on the 24th the patient was taken with diarrhœa, which nothing could check, and which told upon the weight each day, in exact proportion to the intensity which the disease presented. From the 30th July to the 31st, the loss of weight was very heavy; from that moment till August 9th, the diarrhœa continued. On the 9th the patient was withdrawn from the hospital by his friends.

This observation closes the series I intend furnishing in this note. My object has been to show the influence different conditions have upon the weight of the human body. In a paper of this kind, it

Digitized by Google

suffices, by giving a few illustrations, to show concisely the results which have been obtained, and which rest upon a numerous series of observations. The cases, a brief outline of whose history has been furnished above, were attended by M. Monneret, and the diagnosis as well as the treatment, in each instance, was dictated by the Professor, to whose kindness in placing his wards at my command I am deeply indebted. The utility which the adoption of a *series* of weights presents in disease is two fold. 1st. It is an experimental means of research based upon physiological data, for when the functions are unimpeded, the weight in a healthy person must remain at a certain standard (except in young children where, each successive month, for instance, the weight must increase, and in the case of adults who are enabled at a given period to follow a better regimen, etc). Let the functions, and consequently nutrition, become impaired, immediately the general health suffers and the scales announce the advent or the progress of disease. 2d. When illness has once set in, a series of weights furnishes the physician with another practical element to aid in establishing prognosis, for experiments similar to those I have undertaken will form, as it were, general rules for guidance, just as it is at present possible to augur upon a case of typhoid fever, for instance, from a knowledge of the general laws, thermometrical research has found to govern this affection.

Being well aware of the many obstacles which will render difficult the use of this method of observation, save in hospitals and similar institutions, I publish the foregoing remarks merely with a view of showing how manifest is the action of disease upon the weight, and with the hope that the illustration of the physiological idea, that any deviation from the healthy state tells speedily upon the scales, may not prove devoid of interest.

ART. II.—*Case of Gunshot Wound of the Head and Brain; Recovery:* By JAS. S. WASHINGTON, M. D., Indian Bay, Arkansas.

ON the fourth of December last, I was summoned to a negro boy, about 22 years of age, who had been shot from a revolver, the ball taking effect about the commencement of the temporal ridge, left side, passing transversely through the brain, and lodging, I presume, about the

Digitized by Google

junction of the parietal and occipital bones, as near as I could judge from the probe and position when shot, as the ball did not emerge from the skull.

I saw the boy within an hour from the occurrence of the accident; he was then stretched upon his bed, near where he had fallen, in a supine condition; the pulse sixty per minute, tremulous and weak; coma; eyes half opened and very dull; breathing labored and stertorous at times, and he could not be aroused by any means from insensibility; had two convulsions when my probe touched the brain. He lost ten ounces of blood and one teaspoonful of cerebral matter. I carefully removed all blood, etc., from the wound, applied cold cloths to the head, and left him, with orders to be kept quiet, and the cuticular surface to be kept warm by means of hot bricks to the extremities.

5th.—I saw the boy again; still in a comatose condition; breathing more calm; pulse seventy, full and regular. Was ordered xv grs. hyd. chlor. mitis, and the above continued.

6th.—Pulse the same; breathing not at all labored; head cool and pleasant. Made water twice, freely, through the night, rising to his feet for that purpose. As his bowels had not been moved for three days, I again repeated the dose of hyd. chlor. mitis, placing it dry upon his tongue, as he would immediately reject any fluid put into his mouth.

8th.—A good evacuation obtained through the night; pulse seventy-two, about his natural standard; sitting up at the fire, but apparently unconscious of all passing around him; ate an apple, but refused all other nourishment, dashing water or coffee to the floor, when offered him. The above dose hyd. chlor. mitis repeated, and cold to the head continued.

10th.—Pulse yet the same; right arm and hand paralyzed, lifting it about with left hand; no excitement about the brain: wound healing externally very fast.

12th.—Found patient again at the fire; ate greedily any article of food given him; pulse still regular; bowels moved once, getting up as usual on the floor; has not spoken since wounded, but manifests a returning consciousness, by assisting to dress himself with left hand, etc. His diet has been mild, and room kept quiet.

15th.—Very much improved both mentally and physically, possessing all his faculties, excepting a slight imperfection in power of speech, walking about the yard without assistance.

Dec. 30th.—Nothing of interest has occurred from last visit up to this

Digitized by Google

date, except an occasional pain in the forehead. Upon examination I found the orifice had closed. I made an opening with a probe, evacuated a small quantity of pus, gave a saline cathartic, and the symptoms soon disappeared.

Jan. 15th.—Patient expresses himself well and able to do any kind of labor, and places himself under my employ for the ensuing year.

April 29th.—Five months have now elapsed since the boy was shot, and with the exception of not being able to grasp anything as small as a knife in right hand, a partial loss of power of speech, and a small fistulous opening from the wound, is as well and hearty as before the accident.

My opinion was repeatedly asked in regard to the recovery of this case, and I as often unhesitatingly gave an unfavorable reply; so this is one more case calculated to show the extreme caution necessary in prognosis after like injuries.

ART. III.—*A Case of Rare Disease of Bone:* By W. H. WATKINS, Medical Student, Charity Hospital.

THE attention of the Visiting Surgeons of the Charity Hospital has been recently attracted to a case of rare occurrence, which is at present in one of the wards of that institution; and as it is of singular persistency, resisting all treatment, both constitutional and topical, it may prove of interest to the profession at large. Without giving a diagnosis, the details of the case are appended, from which each reader will come to conclusions from his ideas of pathology.

Mary K., aged twenty-one years, born in New York, came to this city when one year of age. She does not recollect her father, but says her mother was healthy, of large size and florid complexion.

At the age of eight years, she had an attack of small-pox, but recovered from it entirely. About two years after, a large *blister* made its appearance on the metatarso-phalangeal joint of the great toe of the left foot; gradually enlarging, it finally ulcerated. Resisting all treatment, it deepened, and the bones were implicated. Four years after, the toe was amputated by Dr. Choppin, Visiting Surgeon of the Charity Hospital; the head of the metatarsal bone being removed; it then healed completely. For two months the disease remained dormant, and then reappeared, the part now implicated being the corresponding joint of

Digitized by Google

the second toe. The diseased bones being removed, the ulcer healed. The same history can be given of the advent of the ulcer—the destruction of the bone—its amputation, and the final repair of the parts of each successive toe, until all were destroyed.

When, finally, the toeless stump of the left foot healed, an ulcer made its appearance on the plantar surface of the right foot, just posterior to the second, third, and fourth metatarso-phalangeal articulations, and in its progress involved with necrosis the first phalanges and the adjoining heads of the metatarsal bones. These were removed, and the same result which characterized the operations on the left foot followed, that is, a period of complete quietude of about two months duration. A small bleb was now discovered on the little finger of the right hand; it enlarged, and as in the foot, involved the bones immediately under it, and, finally, it became necessary to remove the two last phalanges. The same result followed their removal as in the preceding operations. The next ulcer made its appearance on the third finger, and the last phalanges of the right hand were attacked consecutively, the ulcers healing as the diseased bones were removed.

The middle finger of the left hand was next involved in the same manner; the disease extending itself to the index finger and thumb; when the bones from the diseased portions were removed, the parts healed.

When the left hand healed, the disease remained dormant for a period of six weeks, when it again appeared, involving the metatarsal bone of the left foot. The ulceration was more extended than before, and the metatarsal bone of the third toe was implicated. The diseased bones were removed, and the ulceration was arrested and soon healed.

About three weeks after, a large abscess appeared on the plantar surface of the foot immediately under the astragalus, which in a few weeks deepened; and on the dorsum of the foot two spiculæ of bone ulcerated through. The external cuneiform and the cuboid were removed.

The astragalus and os calcis are both now involved on their plantar surfaces, but the ankle joint is not involved.

For two years the regularity of the menses had been interfered with, but at present she menstruates regularly. Her general health has suffered comparatively little.

She has three sisters and a brother in perfect health. There is no positive evidence in this disease of a syphilitic origin, unless hereditary, and there is no good reason to suspect this, as the rest of the family are

Digitized by Google

healthy and fine looking. We can trace her family back two generations, and from the history can have no suspicion of a scrofulous diathesis. Her treatment, during the last six years, has been constitutional and topical, but has not appeared in the least degree to have relieved her. Cod liver oil, syr. hypo phosphites, iodide of potassium, and general tonics have been used persistently.

Notwithstanding that the belief to a certain extent in the syphilitic character of the disease is disavowed, it is but just to give as near as possible the results of investigations on the subject, although they seem to point to some hereditary taint of the kind. One thing is certain, that the disease, from its peculiar manner of evolution, can not be of a purely local character, but points beyond dispute to one of three pathological conditions: First, disease of the arterial system; second, disease of the venous system; and, third, to a vitiated condition of the blood itself. It can be neither of the first two, since any diseased condition of the vascular system sufficient to cause first in one extremity, and then in another (and that too with great regularity), so great a destruction of tissue, would undoubtedly be followed by constitutional disturbances of a marked character, which has been wanting throughout in this case; and, moreover, it is not possible to conceive of a primary disease of the arterial or venous systems so limited in its nature, and, at the same time, so metastatic in its character.

Arguing, then, by exclusion, we are forced to look to the third condition for a solution of the difficulty, and following the same line of argument it seems almost beyond a doubt that the disease should be either strumous or syphilitic.

However, as has already been stated, the appearance of the other members of the family, and the history, as far as can be obtained, of the parents, are much opposed to the adoption of either theory. The insidiousness of its progress as an hereditary disease, and the difficulty of obtaining data under any circumstances, rendering the doubt somewhat less in the second than in the first. Without proceeding farther to establish a diagnosis, where so much doubt exists, it may be proper to state, that within the last year cases have been reported in Paris and London, in which the same train of symptoms have been noticed, and in which the hereditary syphilitic taint was both known and acknowledged. The Paris report was in the *Gazette des Hôpitaux* (the journal being misplaced, it is impossible to refer to it more directly), and the London report, by Mr. F. Jourdan, in a lecture upon the hereditary syphilitic character of an inflammation of the bones hitherto regarded as strumous.

Digitized by Google

In summing up the conclusion to his cases, Mr. J. remarks: "In the cases I have described, there were unmistakable marks of hereditary syphilis, and none of the so-called struma—it was later. The portion of bone affected was not that usually involved in struma. Although strumous caries is chronic, hereditary syphilitic osteitis is infinitely more so. Joint symptoms are primary, or early, or severe, in scrofula; they are late, mild, or absent, in hereditary syphilitic disease."

We regret, in this case, that one important test of establishing the differential diagnosis between scrofula and hereditary syphilis, and one upon which Mr. Jourdan places great stress, viz., the benefit derived from the various preparations of mercury, had not been tried.

ART. IV.—*Clinical Reports:* By W. S. MITCHELL, M. D., Adjunct Professor of Anatomy, and Lecturer on the Eye, New Orleans School of Medicine.

CASE 1.—*Granular Conjunctivitis and Pannus of both Eyes; result of Supra-orbital Neuralgia*—Mrs. L., aged forty-five, from Texas, has suffered more or less with neuralgia for the past two and a half years; about a year ago, her eyes first became inflamed, feeling, to use her own expression, "as if sand was in them;" from this time they gradually became worse, resisting every treatment, and now, on admission into the Charity Hospital (Dec. 10th, 1866), they present all the appearances of a very advanced stage of granular conjunctivitis, viz., congestion of the conjunctivæ, the lids presenting the sand paper variety of granulations, pannus of both corneæ, lachrymation and photophobia.

Upon first seeing her, she was placed upon a generous diet, tonics; and daily applications of the various solutions of nitrate of silver, from ten to thirty grains to the ounce of water were made to the lids. No change being apparent in about six weeks the applications of nitrate of silver were suspended, and in their stead a saturated solution of sulphate of copper, with one drachm of wine of opium to the ounce, was used but with little or no benefit; during the course of treatment she suffered on two or three occasions from supra-orbital neuralgia and the fact of its pre-existence to the extent above mentioned was for the first time avowed. During these attacks, the ward student, Mr. Giffen, prescribed a pill composed of quinine and ferro-cyanuret of iron, which

Digitized by Google

not only seemed to relieve the neuralgia, but at the same time seemed to have a beneficial effect upon the appearance of the eyes; at least upon each subsidence of the neuralgic attacks the condition of the eyes improved, to relapse again in a few days to their former condition.

February 10th.—Discharged from the Hospital, to be treated as an out patient; condition of the eyes, but little (if any) improved. I now determined to direct my remedies entirely to the relief of the neuralgic symptoms, which had begun to recur very regularly every week, and to use topically very mild applications of nitrate of silver (from five to ten grains to an ounce).

With this object in view, I prescribed the following:

℞—Ferri ferro-cyanuret, ℈ij;
Quiniæ sulph. ℥i;
Ext. gentianæ, q. s. M. Fiat pil. No. xxx.
S. Take one four times daily.

Under this treatment the patient rapidly improved, and on the first of May was discharged from treatment as cured.

In this case, I am convinced that the condition of the eyes was directly due to the supra-orbital neuralgia, and I am satisfied from the duration of the case, and from the different methods of relief adopted, that none but a treatment directed to the cure of the neuralgia would have been successful. My attention being called by this case, to the peculiar relation between supra-orbital neuralgia and granular lids, close observation during the past three months in the eye wards of the Charity Hospital, has inclined me to the belief that many of the intractable chronic cases of granular conjunctivitis are in a great measure due to some diseased condition of the fifth pair of nerves, and that unless this condition be first relieved all treatment directed to the eye itself will prove unavailing; the fact of the co-existence of supra-orbital neuralgia and granulations in a majority of cases is very generally admitted, but, so far as I am aware, the neuralgia has hitherto been regarded as the effect and not the cause, and therefore has very little affected the routine topical treatment. The reversing of this order of cause and effect is an idea new to me, and one, so far as I am aware, which has never been before advanced in print. Even now, it is simply advanced as a theory, since it is not in my power to present in its support any regularly noted cases (save the one above and another, the case of an old lady in whom, after resisting all treatment, the granulations disappeared in a few weeks after the extraction of three decayed upper molars.) I can only state that in all the cases of the kind which came

Digitized by Google

under my notice, to treat the neuralgia was sufficient to produce improvement in the granular condition of the lids. At any rate, the theory seems to be plausible, since the opthalmic branch of the fifth nerve plays a very important part in the nutrition of the mucous membrane of the eye, and it is easy to conceive that should it be diseased the nutrition of the palpebral conjunctiva especially—I say especially, since its peculiar conformation renders it more susceptible to changes in the vascular supply—might become disordered and granulations result. To prevent misconception, I will explain that the idea I wish to convey is, not that all diseased conditions of the fifth pair, or any of its branches, will produce or be followed by granular lids, nor that every case of supra-orbital neuralgia will be attended by this condition; but that there does exist a condition of the fifth pair, and this by no means rare, which operating by reflex action, through the lenticular or ciliary ganglion upon the sympathetic, (in the same manner as blushing occurs), would produce dilatation of the minute capillary loops, which in the normal state constitute the papillæ—papillæ which, when hypertrophied, give origin to the disease known as granulations or granular conjunctivitis. I am well aware of the fact, that division of the supra-orbital nerve has been performed without causing any such condition of the lids, and this might be urged as an argument against the proposed theory, were it not for the fact that it is for a reflex action I am contending, which to be sufficiently persistent to produce pathological changes must have a persistent cause. Moreover, the reflex action in this case would not take place from the sympathetic to the fifth, but the reverse; and it could therefore not be expected that any positive suspension of the transmission of nervous force in a terminal branch would affect the main trunk, or any of its branches given off nearer the brain, or the ganglionic centre, than the one divided. The communication with the sympathetic being through the ganglionic branch of the nasal nerve with the ciliary ganglion, division of the supra-orbital (a branch of the frontal) might, if the irritation to it remained, produce the same result by a series of reflex actions, but, as I remarked above, it is not to be expected; indeed, the reverse has, I believe, generally obtained.

In an article published in Braithwaite's Retrospect of January, 1867, and copied from the August 25th, 1866, number of the London Lancet, Dr. Francis E. Anstie reviews M. Notta's reports upon facial neuralgia, and adds some very interesting remarks, as the results of his own experiments and observations upon the secondary complications of painful affections of the fifth nerve. As the results of the observations of both

Digitized by Google

of these gentlemen have a very interesting bearing upon the subject now under consideration, without attempting to show the analogy or entering farther into a physiological discussion upon granular lids, I will briefly sum them up, mentioning only those which, either directly or indirectly, involve the eye or surrounding tissues.

In M. Notta's cases, 128 in number, the retina was paralyzed completely in 10, vision interfered with, from dilatation of pupil, impaired function of retina, etc, in 9. Lachrymation was observed in 61 cases.

Secretion of nasal mucous membrane repressed in 1 and increased in 10 cases. There was unilateral redness in 8, attended with tumefaction in 5 cases; *conjunctival vascular dilatation* existed in 34, convulsive contractions of the muscles of the affected side in 52 cases, paralysis motor oculi was observed in 6 cases.

Fully endorsing M. Notta's results, Dr. Anstie goes farther, and adds, as the results of his own observations, another important class of complications, a class which have a still more intimate relation to the peculiar pathological changes in the palpebral conjunctiva, viz: those of the nutrition of the part, and as an example cites his own case in the following words: "In the first place, a year or two after the commencement of my attack of frontal neuralgia, and at a time when the pains had been very severe, there occurred a painful thickening and tumefaction of the periosteum of the eyebrow, and also the formation of one or two dense white patches on the cornea, in the centre of which small phlyctenular ulcers formed; about the same time, probably, there occurred a great thickening of fibrous tissues surrounding the upper end of the nasal duct, which formed a very thick and solid stricture. Some years later, when the neuralgic attacks had become, on the whole, much less frequent, they recurred with great severity during the state of prostration in which I was left by an attack of choleraic diarrhœa; at this time I first noticed that the hair of the eyebrow was whitened opposite the supra-orbital notch, and that gray hairs were thickly strewn over the right side of the head for some time after the attacks. * * * Another nutritive phenomenon which has occurred to me during a spontaneous attack of pain, but which was also produced artificially on one occasion by experimentation with narcotics, is an excessive unilateral development of epithelium on the tongue."

This much I have felt bound, in justice to myself and to the reader, to say in support of a theory which, I hope, will at least assist in throwing some light upon the treatment of a disease which has always proved so intractable to treatment as to be styled the opprobrium of ophthalmic medicine.

Digitized by Google

CASE 2.—*Atrophy Optic Nerve, both eyes; improvement of vision in one under treatment.* Jno. C. Blair, a native of Georgia, aged 38, entered the Charity Hospital February 25th, 1867.

Patient dates his trouble from August, 1861, at which time he was taken with severe pain just above the eyes, diagnosticated by the physician who attended him neuralgia. From this date there was a gradual almost imperceptible, failure of vision, the failure in the left eye being more rapid than in the right. Prior to this attack he had been exposed a great deal to malarial influences in the swamps of the Yazoo river, and had consequently taken large quantities of quinine. In October, 1861, patient states that he became entirely blind, and remained so for six weeks; vision then began to improve gradually in one eye until a year ago, the other (the left) remaining perfectly blind. General health of patient good, and has been so for some time.

Present examination elicits no evidence of external inflammation; both eyes normal in size and prominence; both pupils dilated, and respond sluggishly to action of light, this condition being more evident in the left than in the right eye; total blindness in the left eye; vision in the right only sufficient to enable him to distinguish the outlines of very large objects, and perfectly useless for purposes of locomotion. Upon opthalmoscopic examination the following conditions were recognized: In the left eye the optic papilla was sharply defined, blueish, smaller in diameter than the right, and somewhat irregular in its outlines; the vessels of the retina were few, small and indistinct. In the right eye the same conditions were recognized, but not in so marked a degree; the vessels of the retina being in about the usual number, but smaller and less well defined than natural.

As both Mr. Wadsworth of England, and M. Sichel of France, have of late advanced a belief, formerly advanced by Mackenzie and others, as to the connection between this disease and the excessive use of tobacco—a belief which they sustain with many strong arguments—it may be well to mention that the patient has since his youth been in the habit of making inveterate use of tobacco, both chewing and smoking to excess. Whether, however, the disease was in this case due to the use of tobacco, to the quinine, or to other causes, is, in my mind, a mooted question.

With but little prospect of relief, the patient was placed upon generous diet and the following

℞.—Strychniæ gr. i,
Ext. Belladonnæ, gr. iij,
Ext. Gentianæ, q. s. M. Fiat pil. no. xx.

Digitized by Google

S. Take one three times daily. This pil. was continued to within a few days of his discharge, varying, from time to time, the amount of strychniæ from 1-20 to 1-14 of a grain.

Improvement was gradual but slow in the right; and in the left eye, at the time of his discharge, he thought he had a slight perception of light. On the 8th of May he was seized with a chill, which repeated itself several times, and this, together with loss of weight from constant hospital diet and confinement, induced me to advise his discharge and a change of climate, charging him to continue his treatment.

May 13th.—Patient called to see me before leaving the city—says he can now see to make his way unaided with ease, and can with right eye read quarter-inch type.

The progress of the recovery in the right eye was so gradual and positive that I am certain if a recurrence of the chills, etc., had not rendered his discharge advisable, he would, in another month, have entirely recovered the use of the eye.

ART. V.—*Researches concerning the Absorption of Medicines, made upon Healthy Man.* By M. DEMARQUAY. Translated from l'Union Médicale, by JOHN D. JACKSON, M. D., of Danville, Kentucky.

IF there is any one function, the knowledge of which, in a medico-chirurgical point of view, may be deemed of special importance, it is that of absorption. It is by virtue of it that alimentary substances, after undergoing important modifications in the digestive canal, are absorbed and enter the circulation. Oxygen does not revivify the veinous blood until it has been absorbed by the pulmonary mucous membrane. Medicines and poisons have no action, favorable or unfavorable, upon the organism, until after they have traversed the tissues and arrived within the circulatory torrent.

The grand passages by which absorption takes place, are the gastric mucous membrane, the intestinal and pulmonary. But these are not the only ways open to absorption. Every soluble substance, having effected an artificial passage into our tissues, can be absorbed; this fact has been perfectly demonstrated by the labors of all those physiologists who have devoted themselves to the study of this important func-

Digitized by Google

tion since the commencement of the present century; nevertheless, it is proper to say, that although all tissues are endowed with the power of absorption, yet their power is not equal—this experimental physiology has perfectly demonstrated.

Studies to which a great number of medical men have devoted themselves have proven, that that which is true for animals was generally true for man; in a word, that all the tissues and membranes have not the same absorptive power. It is proper to add, however, that one has frequently drawn conclusions from animals to man without having sufficiently devoted himself to a study of facts.

Occupied for many years past in the study of wounds, I have made a great many experiments for the determination of their absorptive power; but the wounds upon which I experimented, were in continuity with the skin, the mucous or serous membranes, and the very curious results which obtained, could often be attributed to the membranes found in continuity with the wounds observed. Indeed, physiology taught that all these membranes, as well as the cellular tissue itself, possessed absorptive power; but that which it did not teach me was, the extent, and rapidity of the power with which they were endowed. To be very sure that the phenomena which I chronicled was attributed to the wounds, I have engaged in a series of researches upon the power and rapidity of absorption of the skin, mucous and serous membranes. These observations were naturally made upon man, and from this point of view, do not seem to me to be devoid of interest.

There are two methods generally employed in physiology for recognizing whether or not a substance has entered the circulation: first, we have the physiological phenomena which its presence determines: 2d, the chemical phenomena which we witness in animals. The first method was especially put in use by Magendie, Panizza, Orfila, Ségalas, and most of the modern experimenters. But when one makes man the subject of observation or experimentation, he had better have recourse to a medicament, the action of which in a moderate dose is not dangerous in the least degree, and of which chemical analysis will enable him to discover the smallest trace.

My first thought was to employ sulphate of quinine, but its high price, its bitterness, and especially the philosophic researches of which it had been the object on the part of M. Briquet, determined me to use, in preference to it, the iodide of potassium. This substance indeed is marvellously adapted to experimentation. It is easy to administer, and the interesting researches of M. Ricord have demonstrated it to be easily

Digitized by Google

eliminated by the urine and saliva. With this double view it was chosen, for once introduced into the economy, no matter in what way through the urine or saliva it can always be found.

The means of recognizing iodide of potassium are very simple and known to all the world. On moistening a piece of wafer bread (*pain à chanter*) with saliva, and then soaking it in dilute nitric acid, if the saliva contains iodine the bread will take upon its borders, and afterwards throughout its whole extent, a violet or deep blue tint, according to the quantity of iodide contained. The salivary glands and kidneys are the great emunctories of the economy by which iodine is eliminated. Their power of elimination is such, that one can find, with very great facility, iodine in the urine of some persons who have taken scarcely a few milligrammes of the substance. We may say here, however, that the eliminative power is not the same in all individuals. I have taken, as well as the pupils attached to my service, small doses of iodide of potassium frequently; and while the iodide was found very easily in the urine of many, giving its ordinary beautiful blue tint of reaction, in others, on the contrary, one could scarcely find a trace of it.

The process by which one may discover very feeble proportions of iodine can lead to error, viz: if we test a specimen of urine, suspicioned of containing iodine, by nitric acid and a solution of starch, we can obtain from the urine evacuated subsequent to the ingestion of the medicament, a beautiful blackish blue color. This is not, however, a sufficient reason for concluding that a great quantity of iodine has been introduced into the economy, because a feeble quantity will declare its presence. In a therapeutic point of view, this remark is of importance, and it is very well to know the fact, in order not to fall into the error of thinking that much iodine, or iodide of potassium, has penetrated the organism, because of the coloration of the urine or the bread. A few milligrammes of iodide of potassium will declare themselves when the reactives are brought to bear in the case of individuals.

Although our researches have induced us to make an attentive study of iodine and iodide of potassium, we shall say nothing here of the curative properties of these agents, which is one of absorption and elimination by the organism. We can turn for the study of the curative virtues of iodine, to those admirable works of Velpeau, Ricord, and especially of my friend M. Boinet, who has published a very complete monograph upon this subject. In the proper place, however, we will make some remarks upon certain abuses of these agents, the passage of which through the system is not always a matter of indifference, as we

Digitized by Google

will demonstrate in the progress of this our work. Our researches have been made with the end in view of determining the absorptive power: 1st, of the mucous membranes; 2d, of the skin; 3d, of serous membranes; 4th, cellular tissue; and 5th, of wounds.

1st. *Absorption by Mucous Membranes*—Under this head we speak of our personal researches, and limit our observations to man as the subject of our studies, and avoid all discussion as to absorptive agency, or the mechanism by which the function is accomplished. All these things have been treated in a complete manner in the justly classical works of MM. Louget, Béchard and Colin, and to which we refer the reader.

The mucous membranes which we have particularly studied with reference to absorption are—1, the gastric mucous membrane; 2, the mucous membrane of the large intestine; 3, the glandulo-preputial mucous membrane; 4, the vaginal mucous membrane; 5, the pulmonary mucous membrane.

1. The gastric mucous membrane absorbs; this fact is perfectly demonstrated in physiology. Our experiments had for their aim—1st, the determination of the rapidity of the performance of the function; 2d, the determination of its power. For attaining this double end we made six series of experiments, with the following curious results—and here we may say in the beginning, that all our experiments nearly have been made upon ourself and pupils, and that we are all young. For establishing the rapidity of absorption, we gave generally 25.50 centigrammes, and even 1 gramme of iodide of potassium, a dose generally sufficient for establishing medicinal effects. By our experiments we have demonstrated, that if absorptive power is the same—a thing which is doubtful—there is at least a difference in elimination. One fact not the least interesting is, that in some, elimination is most prompt by the urinary passages, while in others it is by the salivary glands that it generally manifests itself. In general (save, indeed, in very rare exceptions), iodide of potassium, introduced into the stomach, manifests its presence in the urine and saliva in from nine to fifteen minutes. We have repeated our experiments upon a sufficient number of individuals to be certain that the numbers which we give are an expression of the truth. Nevertheless, although the young men upon whom we experimented were all empty-stomached, we ought to add, that we have found two or three in whom there was the notable difference of ten or fifteen minutes; a fact doubtless of but little importance, when we consider the difference in the digestive powers of persons perfectly sound and well.

Digitized by Google

If the absorptive power varies a little according to peculiarity, it is not the same with the faculty of elimination. When one administers iodide of potassium in the dose of 10, 15, 20 or 25 centigrammes and beyond, he can always find elimination of iodine by the saliva and urine. But when one administers but five, two or one centigramme, five milligrammes and less, it happens that in many individuals iodine will not be manifest in their urine; while in some individuals there cannot be found traces of five miligrammes of iodide of potassium administered an hour before, in others there can scarcely be found a trace of a centigramme, and even more, administered under the same conditions. We have varied our experiments very much, in order to be able to determine, by the color of the urine, the quantity of iodine absorbed. How, indeed, can one establish that iodine has been absorbed in a bath or by a wound, if first one cannot determine the connection between the color of the urine and the iodine administered. The conclusions which we have drawn from our experiments, and their connection with absorption by the skin, will be evident.

2. *Absorption by the Rectum.*—Many physiologists have declared, that the power of absorption by the digestive passages goes on diminishing from the stomach to the great intestine, and that the latter, by consequence, absorbs much less quickly than the stomach. Nevertheless, I do not know of any experimental researches which have confirmed or disproved the declaration. That judicious observer Dupuytren, the able physiologist as well as the great surgeon, had, however, remarked that opium administered in lavement, acted more quickly than by the stomach; M. Chomel has also taken notice of this.

I have instituted a series of experiments for arriving at a positive result upon this subject, and have made a certain number, all confirmative of the ideas of Dupuytren. The following were the experiments: To certain individuals, whose general health was very good, we caused to be administered a lavement of iodide of potassium, dissolved in 200 grammes of water. Under certain circumstances I have caused the rectum to be emptied, but more frequently the lavement was administered without this precaution; we have repeated the experiment more than ten times, and it has always given us the curious results of confirmation, that is to say, we have always found a more prompt absorption by the larger intestine than by the stomach. The following is the result of the first five experiments:

First Experiment—Elimination in 7 minutes.
Second " " 5 "

Digitized by Google

Third Experiment—Elimination in 5 minutes.
Fourth " " 6 "
Fifth " " 2 "

These facts demonstrate that one can cause soluble substances to more promptly penetrate the torrent of the circulation by the rectum than by the stomach, and that in those cases where there is a great repugnance for the iodide of potassium, one can produce absorption by the rectal passage, an important circumstance to note in the treatment of certain syphilitic affections, where deglutition cannot be performed with facility. In all these trials for establishing the absorptive power of the intestines, we have sought for the presence of the eliminated agent through the saliva. We have made no experiments upon the small intestine, which can be comprehended when we say, that we have not had at our disposal any patient affected with intestinal fistula; but that which we know of the functions of this organ and its anatomical composition, justifies us in the conclusion that here absorption ought to be very penetrative. If one recalls the absorptive power of wounds, ought he not to reflect upon the double absorption from the abrasions and intestinal mucous membrane which must exist in the course of typhoid fever? It is evident that in the course of this malady there are certain typhic accidents, which ought to be considered in connection with this faculty of absorption, with which the mucous membrane and solutions of continuity are endowed. But the question is, how to reach and modify the septic products which are found in the intestine, and the absorption of which is probably so injurious? In support of the above views, I will cite the opinion of M. Hussen, whose *interne* I was at Hotel Dieu. This able practitioner was accustomed to give a favorable prognosis in the cases of those patients sick with typhoid fever who had to go to the water-closet very frequently. At the same time, M. Laroque, another of the physicians of the hospital, insisted much upon the treatment of typhoid fever patients by saline purgatives.

It is evident, that in either case the intestine was disencumbered of septic principles, the absorption of which have an unfavorable effect upon the progress of the disease. If it is important to modify the product of altered secretions found upon the surface of wounds, it is not a less urgent matter to act upon the composition of analogous products, which the small and great intestines contain in the course of certain maladies. Many times have I been enabled to diagnosticate cancer of the rectum, by the profound alteration exhibited in the general aspect of patients who had come to Paris to undergo treatment for simple hæmorrhoids.

Digitized by Google

This alteration certainly points to a connection between the absorption by the rectal mucous membrane of septic principles, and the cancerous wound itself.

3. *Absorption by the Bladder.*—In 1824, M. Ségelas made some very interesting physiological experiments upon animals, which established the fact, that the pulmonary mucous membrane absorbs infinitely more quickly than the vesical. These experiments made by M. Ségalas, the father, were renewed by M. Ségalas, the son, who pursued his researches upon rabbits and embodied the result in his inaugural thesis. This result was the demonstration of the fact, that the bladder of animals will absorb, and that, in a longer or shorter time, animals, into the bladder of which strychnine had been injected, died of poisoning. Previously to this, M. Ségalas, the father, in his experiments upon poisoning by absorption through the mucous membrane of the lungs and that of the bladder, had demonstrated a great difference in the absorptive power of the two membranes; the numerous experiments which I have engaged in have proved to me that absorption by the bladder is not very marked.

I have collected sixteen observations in which the patients (men) had been subjected to an injection into the bladder of a small quantity of water (about a half cupful), containing 50 centigrammes of iodide of potassium. The subjects of these injections were generally patients upon whom I had in the morning passed a bougie for the cure of stricture, or a catheter for the withdrawal of the urine. These injections were retained a sufficiently long time (two or three hours at least), one only could not retain it beyond twenty minutes. The indications of penetration of the liquid were naturally drawn from the saliva, which was generally examined many times, from the moment of the visit until six o'clock in the evening.

The first result of my observations was, that the absorptive power of the bladder was not the same in all subjects; in a word, I have found the iodide of potassium in the saliva of one patient after 35 minutes, in another after 45, in a third after two hours and a half, in another after three hours, in others, after four, five and even six hours. The saliva was often examined during the day, but one could not remain all the time near the sick person; oftentimes, however, the patient himself took a part in the observations, and indicated the precise moment at which the saliva eliminated iodide of potassium. The hours which we have indicated, except where elimination was prompt, are only relatively exact and not absolute.

Digitized by Google

In these sixteen observations we eight times noted the absence of all elimination within the space of time embraced between 8 and 10 o'clock in the morning and 6 in the evening. It results from these facts, that vesical absorption is either feeble or null. The difference is very great compared with the absorptive power of the great intestine. In what can such a difference consist? Is it due to a difference of vascularization, or a difference of composition of epithelium? Perhaps the demonstrations of anatomy will one day indicate which; but it is certain, that the two reservoirs have each a very different end. If, indeed, the rectal intestine had not been endowed with a very great absorptive power, man would have been affected with a permanent diarrhœa, the fæcal matter in effect passing in a liquid state from the small to the great intestine, and it is here that water and certain nutrient particles are absorbed. The absorptive power of the great intestine is not exercised solely upon liquids. Last year I made trials with sulphuretted hydrogen; and in the rabbits upon which I experimented the gas injected into the large intestine destroyed life in a time varying from two to eight minutes.

The bladder, destined to contain urine as it is, permits itself, upon having liquid injected, to be insensibly filled. If it had been endowed with great absorptive force, it would, without intermission, carry into the circulation not only the liquid part of the urine, but, in addition, the urinous salts held in solution, which would result in accidents most grave. What do we observe in man affected by retention of urine? Agitation, fever, great vesical pain, and sometimes a disturbance of the cerebral functions. When we catheterize the patient, then his intelligence becomes clear and precise; all the complications disappear, and very often the patient lays down to a peaceful sleep. If in such cases there had been a resorption of the urine, with its elements, uric acid and urea, it is clear that complications would be less fugacious. Let the kidneys become affected so that uric acid and urea cease to be eliminated, and we very soon see the accidents of uræmia, with the brain troubles, etc., accompanying.

I know well that authors, for the most part, speak of urinous fever and urinous exhalations. As for myself I have never seen these accidents; and when the sick exhale a urinous odor, it is because there is an infiltration of urine. The fact which I have observed in my researches is in harmony with the primordial aim for which the bladder has been created. Nevertheless it absorbs water holding in solution iodide of potassium, since in sixteen observations we eight times found

Digitized by Google

iodine in the saliva. It ought even to exercise a certain degree of absorption upon very aqueous urine, in order to bring it to a proper degree of density.

Our trials were made upon sound bladders.

But what comes to pass in the case of diseased bladder—one affected with catarrh? Under these new conditions will the absorptive power of the bladder be modified in a case of retention of urine? Will the elements of the urine now be absorbed? This is a question I cannot answer, but in the future will not fail to turn my attention to the subject.

We do not wish further to insist upon this point; but will now pass to a consideration of the mucous membrane which covers the glans and prepuce.

4. *Absorption by the Glandulo-preputial Mucous Membrane and of the Vagina.*—I have likewise made a great number of experiments for the study of absorption by these two mucous membranes; for it appeared important to me, before studying cutaneous absorption, to see if these two membranes, which resemble each other so much in a general aspect, are endowed with the same absorptive power; it ought naturally to be taken into account in the history of cutaneous absorption, and we will again refer to the subject in speaking of the skin. We may say, in the beginning, that the glandulo-preputial and vaginal mucous membranes will absorb when they are perfectly sound. In this condition a certain time is necessary for absorption, and this time may be quite long.

For absorption to take place in man, it is necessary that there should be pressure, and that this should be of a certain duration. In the Jews and Mussulmans circumcision makes a great modification in the epidermal covering, leaving but little prepuce. The gland being uncovered, I envelop it in wadding well wet with a solution of iodide of potassium. This done, I bring the prepuce over the glans, and drop on a certain quantity of the solution above indicated; as the cavity will contain but a little of the liquid, it is necessary to frequently renew the quantity.

For observing absorption by the vagina, I proceeded differently. A speculum was applied, I put a little of the preceding solution into the bottom of the vagina; I then slipped into the organ a tampon of wadding, well impregnated with the substance: I then again dropped a little of the liquid upon the tampon on withdrawing the speculum; then I applied a second and even a third, as moist as possible. The patients, male or female, I afterwards placed upon their beds. It is very evident

that the study ought to be made upon organs perfectly sound; for in the case of cancerous or other ulcerations of the neck of the womb, absorption is extremely powerful, as we will show further on. Here are the results which we have obtained:

Upon man they are very variable, and are proportioned to the preputial cavity. In a word, if the prepuce is short, and if the gland uncovers itself easily, it can readily be perceived that the results will be different. In some cases I could not demonstrate absorption, though the dressings remained in place many hours; at other times I found that it had taken place after one hour; another time after four and a-half hours; another time after eight hours; another time on the morrow. If the glandulo-preputial cavity is affected with chancres, or balanitis, absorption is infinitely more rapid; but the experiments which were made for the purpose of establishing the question of the absorptive power of the glandulo-preputial mucous membrane have all been made upon sound organs. The result of my observations has been the establishment of the fact, that the glandulo-preputial membrane absorbs when one takes the pains to keep it constantly moistened with a solution of iodide of potassium. I am convinced that in those cases in which I did not find absorption, that had I persisted in my experiments, and continued to moisten the cotton within the preputial cavity, all the cases would have yielded an affirmative result.

The vaginal mucous membrane likewise absorbs—the demonstration of this is not less exact than the preceding; the rapidity of absorption is also subordinate to the physiological condition. Where the vagina is large and open and exhibits an epithelium covering the mucous membrane of more than ordinary thickness, and resembling, in some respects, the epidermis of the skin, (one can understand how,) absorption will be less prompt. There are to be seen also cases of women in whom the organ has been at some time torn, and in whom the absorbable liquid is less easily retained. In twelve trials I obtained negative results, although the tampons impregnated with the liquid were retained many hours. In others I obtained positive results, after three hours in some, four in others, and in one of them after five minutes. It results, then, that the vaginal mucous membrane absorbs when in a sound state; but that in general this absorption is neither very prompt nor powerful, for the reasons we have given above.

If the uterine neck is unsound, if it is affected with simple ulceration or granulations with exfoliation of the epidermis, absorption is infinitely more active. In cases of chronic metritis, with granulations

Digitized by Google

or erosions of the neck, absorption took place in one case in three-quarters of an hour, and in another in fifteen minutes. If one will place a solution of iodide of potassium upon the neck of a uterus which has been previously cauterized, a little while after the fall of the eschars, absorption will take place very quickly; I have twice seen it take place at the end of about four minutes, and upon one poor woman, who had a fungous ulcer of the uterus, in between a minute and a half and two minutes.

These facts seem to us to be worthy of all attention. * * *

Do we not daily see ointments prescribed for introduction into the vagina, and even into the neck of the uterus itself, regardless of the sound or unsound state of these organs. I have recently seen a lady who, to combat certain nervous manifestations, poisoned herself daily, by introducing into the vagina, in contact with the granular neck, an ointment of belladonna; and as the nervous accidents consequent on the belladonna aggravated the state of the patient, the troubles were all laid to hysteriæ; but the trouble of vision, accompanied by dilatation of the pupil, increased after each application of belladonna, and this symptom was the cause of the discovery of all the strange phenomena which the young woman experienced. It is proper to add that they partially ceased on abandoning the use of the belladonna. As to myself, it has happened very often that I have plunged into complete narcotism, poor women suffering with cancer of the neck of the uterus, by placing in contact with it a tampon of wadding wet with glycerine, to which I added a certain quantity of the laudanum of Sydenham.

5. *Absorption by the Bronchial Mucous Membrane.*—If there is a fact perfectly demonstrated in physiology, it is the absorptive power of the mucous membrane of the bronchi. The experiments of modern physiologists have made this clear. In accordance with the revelations of modern physiology, M. Sales Giron has sought to establish a respiratory system of therapeutics in harmony with the absorptive power of the bronchi. Unfortunately this distinguished physician has not supported his doctrines by direct experimentation. After having used the ingenious apparatus designed for the treatment of diseases of the respiratory passages, the penetration of pulverized liquids into them has been disputed, and he has not used anything else than a series of experiments made by myself upon men and animals, and a very philosophic report of M. Poggiole, who had been a witness of facts tending to establish the penetration of liquids into the bronchial and trachial ways. The new experiments have for their aim not the demonstration of pene-

Digitized by Google

tration, but rather the absorptive power of the pulmonary passages. Here are the trials:

If one will take an anatomizer of a certain projectile power, and project upon an individual a water containing one gramme of iodide of potassium to 20 or 30 grammes of water; if the subject of the experiment will breathe freely, according to the rules indicated elsewhere, it will be sufficient for the purpose to cause him to breathe the liquid spray during two or three minutes to establish, in a notable manner, at the end of five or six minutes, the presence of iodide of potassium in the urine; the time, however, is very variable. But that which is very curious, and which proves very clearly the utility of inhalation is, that if one groups two or three persons around the individuals respiring the pulverized water, he can likewise establish in their urine eliminated the presence of iodide of potassium. But some may say, the iodine which you found came from the water swallowed during the time of pulverization. To this I respond, the persons submitted to experiment may swallow a certain quantity of the solution, but we have seen that the liquids containing iodine ingested by the stomach do not give signs of elimination by the urine until the end of ten or fifteen minutes, whilst the solutions penetrating the bronchial passages manifest their presence in the urine after five or six minutes.

There is yet another series of facts proper for the demonstration of the absorptive power of the respiratory passages, and upon which I will insist for a moment, the more especially because these facts, badly interpreted, have caused a belief in cutaneous absorption. Indeed, one of my old pupils, M. Flurin, practising physician at Cauterets, has wrought a thesis upon cutaneous absorption, and he supports himself upon a true and incontestible fact, which see. If one paints the belly, thigh, knee or foot of a patient with tincture of iodine, he will, at the end of a very short time, perceive traces in the urine of the patient thus treated. But whence comes this iodine? Has it, after modifying the texture of the epidermis, traversed it, and thus penetrated the torrent of the circulation? Such has been the interpretation generally given. I have repeated the experiment many times, and the urine of the subject of the painting has always contained a notable quantity of iodine, whether I used the tincture of iodine or the solution in water. Nevertheless, although this experiment gives such evidence of the passage of iodine into the blood in great quantity, I must give another explanation of the phenomenon. It is possible that the iodine which I found in the urine in such quantities may, by its volatility, have arrived

Digitized by Google

there by another way—the respiratory passages. For clearing up the fact, I made an extensive application of the tincture of iodine upon the abdomen of a woman affected with an ovarian cyst, and collected the urine of the patient with that of another woman in the same chamber. This experiment was made in winter, when the fires constantly burning gave the chambers a sufficiently elevated temperature. The result of the trial was the same for the two patients, that is to say, the urine of both women contained iodine. I have very often varied the experiment, and have always established the fact, that in every instance where the painting was over a sufficiently extensive surface of the body —always, I say—the urine of the patient painted and that of the surgeon who paints, and generally the assistants, contain it likewise.

To render the fact more striking, I have many times made the experiment of putting a plate containing tincture of iodine in a chamber where three patients lay, and always, if the temperature of the apartment was sufficiently elevated and the windows closed, have I found iodine in their urine.

These facts, then, do not prove cutaneous absorption, but very markedly do they prove the great absorptive power of the bronchial mucous membrane, and in this light they merit attention. Do not these facts legitimitise the deductions of M. Jolly, drawn in those two remarkable studies on the action of alcohol and tobacco? In the presence of the absorptive power of the mucous membrane of the lungs, how can we fail to understand, or refuse to admit the sad effects of tobacco smoke unceasingly inhaled by smokers, as well as the no less grave consequences of alcoholic vapors?

6. *Absorption by Serous Membranes.*—Since the commencement of the present century, many physiologists have made experiments for the purpose of demonstrating the absorptive power of the serous membranes. With this aim, they injected poisonous substances, dissolved in water, into the peritoneum or pleura, and established absorption by the physiological phenomena manifested. Such were the experiments of Magendie and Panizza. For my part, having often had occasion to inject the tincture of iodine into the tunica-vaginalis, the pleura and the knee joint, I have proven the fact, that the day after the operation a great quantity of iodine is to be found in the urine. Absorption by the serous membranes was thus demonstrated, but it remained to determine the power and rapidity of this absorption. The subjoined is a *resumé* of a series of experiments made with the view of studying serous absorption.

Digitized by Google

Upon nine patients on whom I operated for hydrocele, and into the tunica-vaginalis of whom I injected a sufficiently strong solution of iodide of potassium, before injecting with the tincture of iodine, the following were the results:

In one patient I found the iodide of potassium in the saliva after seven minutes; in another after eight; in another after twelve; and finally, in the others after fifteen, twenty, twenty-one, thirty and thirty-eight minutes. This difference can not be explained in any other way, than by the more or less great modifications of the tunica-vaginalis, the epithelium of which had undergone modifications more or less important according to the duration of the disease. Very recently I have had occasion to inject a solution of iodine into the left pleura of a young man who had undergone paracentisis for a purulent pleurisy; although the pleural cavity was much reduced, and but little of the liquid injected, the elimination of iodine by the salivary passages took place in seven minutes.

Although these experiments are not all which could be desired for establishing the absorptive power of serous membranes, they are nevertheless sufficient to establish the fact, that the surgeon ought to act with circumspection when he injects the tincture of iodine into either the pleura or peritoneum, for as this agent is promptly absorbed, and carried into the circulation it cannot have other than the saddest effects. I have seen two women rapidly die, the one of whom received an injection of iodine into an ovarian cyst, but a minute part of the injection escaping, a rapid death followed, which it was impossible to attribute to anything else than a veritable poisoning by iodine, for there were no symptoms after the operation that would permit the death of the woman to be asserted as that of peritonitis, the other affected at the same time with ascites and an ovarian cyst, was tapped, and an injection at first thrown into the cyst; but being improperly retained by one of the assistants, the liquid finally passed into the peritoneum, and here the result in death was equally prompt. If I may be permitted, I would say, after long researches upon the absorption of iodine and an attentive study of its action, that there has been a strange abuse of it, in so often employing it without measure in vast serous and mucous cavities or the foci of purulent discharges. The result has been, serious accidents to the nervous system and the digestive passages. Often these symptoms have been attributed to the malady itself, forgetting that under the pretext of modifying the diseased parts, new injections were being made, and especially when it was

Digitized by Google

not possible to cause the greatest part of the liquid to flow out again. Very recently I have borne witness to a striking case. A young woman, a long time sick, received each day an injection of tincture of iodine diluted with water, into a large cavity the result of accident, with the aim of modifying its surface and causing the cessation of elimination of fœtid pus. It was sufficient to stop these injections, and substitute them by an injection of permanganate of potass, diluted with a little water, to cause the phenomenon of iodio intoxication to disappear and to effect a cure.

7. *Cutaneous Absorption.*—A large number of researches have been made in modern times to demonstrate cutaneous absorption, which have been admitted with great readiness by some and disputed by others. We will not give here the history of this question; one may find it in the elementary treatises of physiology, and in the article *Bath*, in the dictionary published by Baillière; but we recommend those who desire an exact and critical knowledge of the subject to the "Letters of M. Roche on Cholera." This philosophic physician has discussed with remarkable lucidity all the published observations in favor of cutaneous absorption, and has concluded in favor of non-absorption. In a very interesting work recently published in l'Union Médicale, M. Roche advances anew the doctrines cited in his former work.

My first researches, which extended over several years, caused me to conclude as M. Roche. From more recent and extended researches, I must place myself by the side of M. Villemin. and admit, with him, absorption by the bath, but only under exceptional circumstances.

If one will examine the fact in a practical point of view, it is, in my judgment, without value. Here are my reasons: I have caused sixteen baths to be taken of ordinary water, in some of which there had been put 30 grammes of iodide of potash, in the others and the greatest number, from 100 to 150 grammes; in a certain number of baths there was added one kilogramme of glycerine. I ought to say here, at the beginning, that the glycerine did not seem to me to have any influence upon absorption. Among my sixteen baths I found seven in which the result was negative, although in ten of them there were a hundred grammes of iodide of potassium. Among the nine remaining, one of which was doubtful, absorption was established by a direct examination of the urine. But among these positive facts were the following observations: The urine collected one hour after the bath, and twenty-four hours after being treated with a solution of starch and nitric acid, presented a light mallow or violet tint. Never have I detected that deep blue tint pre-

Digitized by Google

sented when a certain quantity of iodine is contained. It is well to add, that oftentimes the urine of the day following, offered a deeper tint than that of an hour after the bath. The baths were all taken under the same circumstances, at the "Maison de Santé," at a temperature of from 34 to 36 centigrade, and were of a duration of from one to two hours. We generally kept the bath until the morrow, and many times we have observed a light tinge upon the bathing-tub, due doubtless to the decompqsition of a feeble quantity of iodide of potassium, perhaps by the elements of the water, perhaps by the elements of the sweat.

Now that we have established the fact of absorption by the bath containing iodide of potassium, it is important to see what quantity of this agent can penetrate in this way. We demonstrated in the beginning of our labors, that the urine of certain individuals who had taken several centigrammes, I might say, several milligrammes, there existed traces of iodine such as would be found on administering a bath containing a hundred and a hundred and fifty grammes of the iodide of potassium. I suppose it to be well understood that no wound of the skin exists. It is very evident that there is no advantage in giving a very strong bath for so meagre a practical result.

Mineral baths must therefore in future be considered as powerful modifiers of the external surface of the body, simply by their physical and chemical properties, and not as a means of causing the mineral elements which they contain to enter into the circulation. Besides there is the question, whether this feeble quantity of iodine comes from the small quantity of water penetrating the epidermis, or whether its presence is due to another source.

I have demonstrated in a preceding chapter, the fact that if one envelops the glans-penis in wadding frequently saturated with a strong solution of iodine, it generally results that we have evinced an absorption much more powerful than that following the bath containing 150 grammes of iodide of potassium; the proof is, that in this case the saliva contains iodine, whilst in that following the strong baths of iodide of potassium, I have never found it, neither on the same day nor the day following, in pupils submitting to the experiment. Then may not one properly ask the question, whether or not the traces of iodine which we and M. Villemin have found, have not been from absorption by the preputial cavity, or the margin of the anus, rather than by imbibition through the epidermis proper. * * Whatever may be the opinion adopted, one cannot avoid the conclusion along with M. Roche, that if absorption by the skin takes place, it is so feeble that it is without value in a chemical point of view.

Digitized by Google

From demonstrating the feeble quantity of mineral agents susceptible of penetrating the body while in the bath, we proceed to the more important question for determination, viz: the result of an inunction, upon some part of the body, of a pomade charged with a medicament

From time immemorial it has been the custom to make inunctions over affected organs with a host of pomades, and afterwards to cover them either with cataplasms or gum taffeta. The happy results obtained are generally attributed to the pomade employed; but there has been no direct experiment made for demonstrating the absorption of the applied medicament; it has been deemed self-deducible from the result itself when fortunate; there is besides one fact which has appeared sufficient—it is the salivation which comes on upon making continuous inunctions with the Neapolitan ointment. It is true that one can ask in this case if the salivation—since the mercury incorporated with the pomade was so volatile—may not have been from absorption by the pulmonary passages. We know that all the workmen who work in mercury—those who extract it as well as those who transport it—are frequently affected with mercurial accidents as a consequence of the volatility of that agent. Admitting that it penetrates by the integument, its absorption thus does not prove the absorption of other medicaments employed, since mercury is employed in a metallic state and not in that of a salt or extract, as are the medicaments generally used. I have therefore made a series of experiments upon man, for the purpose of arriving at a knowledge of the truth of the matter. This has been my process.

I caused to be prepared, with very pure lard, a pomade containing three and four grammes of iodide of potassium, (the purity of the lard is important, without it the iodide is in part decomposed.) This done, I made an inunction upon the leg and part of the thigh of a patient with a part of the pomade, then covered the member, from the foot to the fold of the groin, with gum taffeta, which I then covered with wadding. The whole was then maintained in place with a moderately tight bandage; it is proper to add, that the member was previously washed with care, and that no trial was made on other than a sound limb. The urine of the evening and morning was collected and treated with a solution of nitric acid and starch; the dressing remained in place many days, and each day we found iodine in the urine. This experiment is conclusive; it has been repeated more than twenty times, and we have always found the absorption of a certain quantity of iodine. But it is proper to say this quantity is feeble, but it legitimitizes the application

Digitized by Google

of resolvent pomades, although I think the accessory means employed concurrently, as the use of cataplasms, wadding and gum taffeta for covering the pomade, as well as the gentle compression by the bandage designed to embrace the whole, has an action if not more powerful, at least as powerful, as the pomade itself. I have repeated the experiment with the glycerole of starch and iodide of potassium, but if it was a little dry, absorption did not take place.

ART. VI.—*Therapeutical Effects of Acetic Acid on Malignant and Non-malignant Growths:* By D. M. CLAY, M. D., Shreveport, La.

THE subject of malignant growths, their origin, their progress, their removal, their cure, or amelioration of suffering consequent upon their advanced development, has for years engaged the earnest attention of the ablest physicians and surgeons of the age. Thus far their efforts, though ever so assiduous and praiseworthy, have been barren as to results regarding any certain therapeutical measure. It is quite true that pathology has elucidated in a satisfactory manner the morbid process in local developments, but the constitutional cachexiæ stands a mystery, in open defiance to all investigation.

The local developments of malignant growths (particularly the cancerous) presents the appearance of an organ of excretion, elaborating for its maintenance and peculiar mode of destruction the richest material of the blood. The cells are produced in a similar manner to those of normal tissue, like the nucleated cells of mucous membrane, being rapidly developed and destroyed, pouring forth their contents in one continuous discharge. When such a condition is present it is not difficult to foretell the final event; the rapid evolution of deciduous cells forms a vent that will soon exhaust the constitution of all its vital elements.

The malignancy of cancer, in all probability, depends upon the increased developmental capacity of the new organization, producing irritation, fever, exhaustion, etc. In the large majority of instances, malignant manifestations have for their origin a vitiation of the constitution, based upon hereditary transmission. While this is true in the main, we occasionally observe a departure from this rule when the cancerous diathesis is engrafted upon a constitution originally healthy; especially is this the case with some tumors when operative or other

Digitized by Google

interference have been resorted to for their removal. I have observed this independent condition oftener in the negro than in the white, at the same time appearing to run its course more rapidly.

It is not my intention to dwell upon the pathology of morbid growths, or to speak of them otherwise than to display their peculiar tendencies, on which therapeutical agencies seem to exert a curative influence; and in doing this I feel, or fear at least, that I am advocating the use of remedies that will, sooner or later, become obsolete, so far as relates to the treatment of cancer. Albeit we are justified, by apparent success, in making a trial and reporting observations with such agents as appear to have accomplished results different from any heretofore employed. In mentioning our recent therapeutical advancement, it may not be inappropriate to state, that accident, instead of scientific investigation, frequently places in our hands means and agents by which we may accomplish much good. This agent has for many years been used by microscopists for the purpose of developing more fully, or bringing into better view, the cell formation of tissues. It was a well known fact of the powerful influence it exerted on the dead structures, imitating, in a great measure, the cell and nucleolar development of healthy tissues. When we take this peculiar property of acetic acid into consideration, it is a matter of some surprise that it was not taken advantage of at an earlier day. The rapid evolution of cancer cells, when considered in connection with the peculiar action of citric acid, might have induced us to anticipate good results. But it appears that this was reserved for the empirical cancer curer, who used the agent as found in the shops, or in some modified manner—may be other remedies have a similar action—thus by their success engendering distrust as regards true professional knowledge.

If I am not mistaken, it was the result of accident that Mr. Denny of England had the pleasure of witnessing the happy effect of citric acid on a malignant growth in a patient of his. It appears that he had exhausted all the remedial measures then in his possession without accomplishing any good for his patient. The unfortunate sufferer, acting on a *dernier resort*, concluded to take the chances, by submitting himself to the treatment of adventurers. They luckily, and likely unwittingly, resorted to the use of citric acid, which in a short time arrested the progress of the affection. Shortly after this Dr. Broadbent published to the world the results of his experience with acetic acid, applied to malignant and non-malignant growths. Several other articles of the materia medica have been mentioned for treatment of affections where

Digitized by Google

acetic acid has been employed with advantage, prominent among them is carbolic acid and bromine. I have never had any experience with either of the latter agents, though good reports have been made concerning the action of both.

The first case in which I had the pleasure of witnessing the wonderful effects of acetic acid was one of encephaloma, occurring in the person of an elderly woman. She had been suffering several months with a painful tumor on the middle third of the forearm, radial aspect. Eventually ulcerative action was set up, attended with all the excruciating suffering consequences incident to the progress of encephaloma. At this period she applied to the Medical and Surgical Infirmary for treatment, when Dr. Williams, recognizing the character of the growth, applied acetic acid. The Doctor was far from being sanguine as regards any benefit that might accrue from the use of this agent, the same being intimated to the old woman. We lost sight of her at this time for one week, she attending the institution as out-door patient, directing the use of the acid as originally applied. At her next visit we were astonished at the marked change in the appearance of the mass; instead of presenting that peculiar mutilated or fungoid condition, and being bathed continually by an ichorous fluid, it was cut down even with the surrounding healthy integuments, and covered by a dense impermeable shield. The dense covering of the mass was now removed with a sharp scalpel and the acid re-applied.

For the purpose of condensing the report of so important a case, it is only necessary to state, that in three weeks from the first application the morbid growth was completely destroyed, and healthy integuments closed over the chasm which had formerly been occupied by such an unpromising mass. How long this respite or immunity may last is simply a question of time. The lymphatic glands in the axilla had already become involved, either by sympathy or deposit of morbid products. Since the subsidence of the local affection in the forearm, the glands in the axilla have returned to their normal condition, and I might add, the general health is wonderfully improved.

The second case was a fibrous tumor, situated in the cervix uteri, which had encroached on the body of that viscus, producing an erosive ulceration by pressure. The patient was very anæmic, and presented the usual faceis peculiar to long suffering and exhaustion, and quite despondent relative to her condition. On the second day after her admission into the infirmary, the major portion of the tumor was removed with instruments, and owing to her feeble condition, further ope-

Digitized by Google

rative procedure was deferred. The remaining portion of the mass presented an ugly, jagged and decidedly unhealthy appearance, resembling the recurrent variety. To this a strong solution of iodine was applied, without accomplishing anything towards its destruction or removal. Her condition at this time was anything but promising, irritation, fever, night sweats, loss of appetite, etc., completed the dreary prodromata. The iodine was assiduously applied and persisted in for some time before recourse was had to acetic acid, which appeared to us like a drowning man catching at straws. Twelve hours after the first application of the acid we had the pleasure of witnessing one of those wonderful changes which can but be appreciated by the devoted men of science. True the general condition of the patient was not much improved, but the local parts in so short a time had assumed quite a favorable aspect. The restorative treatment was vigorously carried out in connection with the topical application of the acid, which soon began to improve the general condition. From this time I may say that convalescence commenced, the debris of the mass passing away, succeeded by healthy action on the part of the mucous membrane of the uterus.

The topical application was continued for several days, as long as a vestige of the tumor could be seen, after syringing the parts with cold water. Thus ended a case, I am firmly persuaded, which was cured by the timely application of acetic acid.

The third case was one of epithelial disease, involving the lower lip of a negro man, a patient of Dr. R. A. Gray. The disease was of some duration before active ulceration commenced. After the ulcerative process was fairly established, Dr. Gray applied the acetic acid, and continued to do so for several days, until the diseased action appeared to be arrested. It is truly remarkable with what rapidity bridges of healthy skin are projected across a chasm formerly occupied by morbid growths; it may be owing to some peculiar effects of the acid imparting to the surrounding structures vitality or recuperative power, or it may be owing to the morbid growths infusing their redundant developmental action into the surrounding integuments.

I regret that my experience and observations with this agent is not greater; or that more time had elapsed, to have enabled me to speak definitely in regard to the recurrence of the affections in the treatment of which it has been usually employed. I feel confident that it possesses some advantages over the knife, in certain forms and conditions of malignant growths; but whether it possesses any advantages in regard to destroying the diathesis or producing any increase in the immunity of future

Digitized by Google

attacks, is a question time alone can demonstrate. I am of the opinion that it does not; nor will we ever possess a remedy the virtues of which can be relied on in eradicating from the constitution that morbid tendency to malignant disease. What effect a thorough alterative course of treatment, in conjunction with the topical, may have, I am unprepared at this time to state, but believe it to be the proper course to pursue. The *modus operandi* of acetic acid on malignant developments is doubtless one of exhaustion, by acting on the cell membrane and causing their rapid and premature rupture. It would appear as if the diseased action itself were outdone by an agent possessing greater activity, in a similar manner to the inherent qualities of the new organization. This peculiar action of a remedy would seem to indicate a tenable position for the disciples of Hahnemann, who, I believe, boast of the motto, "Similia similibus curantur."

It may be necessary, before dismissing this subject, to state the strength of the acetic acid usually employed, though this should be modified according to location of the disease and structures involved. The glacial acetic acid is the one usually preferred, on account of its uniform purity and strength; this should be diluted with three to five parts of water. The commercial acid may be used with much advantage, less diluted than the stronger preparation, say one to two parts of water. The mode of application consists in thoroughly saturating a small bit of lint with the acid, and applying it to the affected parts once or twice daily, being careful to wash off the disorganized portions previous to application. For the complete and rapid action of the acid it is necessary that the affected parts should be denuded of its epidermis, so that it may come in direct contact with the cell formation. This necessity can very readily be obviated, with equally as good results, by the hypodermic injections of the acid through the various portions of the tumor or disease.

ART. VII.—*Egyptian Conjunctivitis*: By WM. MASON TURNER, B. P., M. D., Philadelphia (formerly of Petersburg, Va.)

No subject in medicine has brought forth more controversies, called into existence more elaborate treatises, about which, in fact, so much has been said and so little positively determined on, as the *purulent conjunctivitis of the East*, or, as it is sometimes known, the *ophthalmia of*

Digitized by Google

armies. A great many writers on the subject, 'tis true, egotistically satisfy themselves that they are acquainted with everything concerning the affection which is of any avail theoretically or practically, and with cunningly worded phrases, and well turned sentences, seem, indeed, from a casual survey or even a temporary scanning of their works, to write sensibly, or as men satisfied on a certain point—men who adduce apparently, and only apparently, good reasons on which they base their satisfaction.

In treating a medical subject there is, in general, a plan, or rather an analytical mode of dividing the subject in detail, which, when thus treated, is rendered far more comprehensible to writer and reader. The mode, as every medical student knows, consists in defining (if a disease) the cause, its complications, its march, duration, prognosis, diagnosis, etc. Now, when we examine any article written on this subject, each of these headings is well treated and fairly disposed of until we come to cause, and here there is, in fact, a total, if not in every case a confessed blindness. Assaline, a surgeon attached to the staff of Prince Eugene, during the expedition in 1798 to Egypt, contends, as all know who think at all on the subject, without a shade of reasoning, that the *cause* of the disease in the first place, and of its propagation in the second, *is the climate of the country.* He lived long enough to see this ophthalmia in Belgium, Germany and Spain, and yet he never believed, or at least never wrote (for he could not but have credited his own senses) differently. M. Desmarres, of Paris, remarks of Assaline in this connection, "but this opinion, some have well thought, cannot explain why the disorder makes such numerous ravages on men *en masse*, yet it spares those who are *isolated*, yet who, aside from this, are placed under the same circumstances." The fact is, M. Assaline wrote before he had had sufficient experience, and before he was warranted in forming any conclusion. Dr. Mackenzie, who among other things, doubts most strongly the contagiousness of the disease, thinking it like leprosy (Eastern), simply hereditary, also attempts to assign causes which give rise to this disorder, and indeed the Doctor in one case so far forgets his logic as to urge the simple fact of its being hereditary as the cause, forgetting that what is applicable to a present generation was inapplicable to a former; in other words, overlooking prime causes and their existence.

There exists, undoubtedly, a great tendency for this disease to be developed in the Valley of the Nile and in some warm countries neighboring of the Nile; in all Egypt, in fact, and in much of Syria, it pre-

Digitized by Google

vails to a large extent, yet there are other countries within the tropics which are indeed warmer than those regions, and where this purulent ophthalmia has never, by any record, made its appearance—for instance, some portions of the Burmese Empire. But most writers contend, that great heat is one of the necessary agents in exciting the malady. This does not hold good without exceptions. Others, on the contrary, suggest, as Desmarres, that the changes of temperature from "great heat to sudden cold," may originate, or did originate, the disorder which afterwards became, through inherent properties, contagious, and by it contagiousness was spread over the world. We know that it attacked the French and the British soldiers during the expedition which we have before mentioned—that it was unknown in Europe, according to best authority, until the return of the armies—that it prevails much near the Nile, and that is about all we know without resort to speculation, of course taking it for granted that we have learned something of its progress, treatment, etc. We also know that generally its attack is sudden, as among the first thing we notice is a muco-purulent and acid flow from the lids, that its march is rapid, sometimes it has been known to have been finished in two hours, sometimes twenty-four, and that its termination is *decided* in one way or the other. Besides knowing this, we *very justly, perhaps*, infer the truth of much else, and among other things, its cause, probable contagion, etc., yet, although we, the medical world, have had ample opportunity to study the affection, nothing more is absolutely determined on. Thus think at present Desmarres and Sichel, of Paris, and Graffe, of Berlin, all of whom I have heard on this interesting topic.

At present there is much purulent-ophthalmia of this sort in France, Germany, Middle Italy and Belgium and some, strange as it may seem, and in contradiction to the heat theory, in the Highlands of Scotland. I have seen some cases, but very few, in the United States, and even concerning them there was a difference among medical men, as to the diagnosis. Whenever seen though and definitely determined to be Eastern ophthalmia, it has extended itself not only from mass to mass or assemblies of men, but also from individual to individual. Though some do deny now, and many have ever denied it to be contagious, yet the different hospital reports of Paris and different parts of Germany, and the incontrovertible testimony of medical men whose names are alone a sufficient guaranty for correctness, place the fact, the contagiousness of the disease, far above doubt. And the one experiment of Dr. Mackenzie, is not only met, but overwhelmed by a host of others, which for years

have been the results of the patient and constant labors of many of the brightest ornaments of the healing art.

The object however, of the present paper, is chiefly to spread before the medical portion of the community at large, some facts, gleaned by personal experience, relative to this disease, and which, as practical facts might be sufficient to place them in importance far above useless theorizings. It was my fortune, while on the other side of the Atlantic to visit the far off land of Canaan, and still later to wander through the fertile Valley of the Nile, even to Cairo. During my visit, which was chiefly one of pleasure, I did not neglect to search, as far as I was able, into the nature, state of existence, contagion or non-contagion, duration, and especially the treatment of this formidable ophthalmia, of which there was more than enough material for observation around me. From the moment that I landed at the old custom-house stairway in the ancient port of Jaffa until I took the steamer *en route* again for the west at Alexandria, on my return from Egypt, I saw cases of Egyptian ophthalmia in almost every stage of the disease. In fact so common and so expected was this terrible sight, that I was surprised when I found in the towns more than two or three together all having sound eyes. It is not confined to any age or sex, but according to my observations, was alike seen in the young, in adults, in the middle-aged and superannuated. It is true, I saw in the older persons thus affected more results of the ophthalmia than in the young, yet there ophthalmia had existed and its effects were apparent. Yet notwithstanding the abundance of the affection, its rapid march, and its ever-expected fatal termination, 'tis singular to see, considering the facts, how few blind people there are, either in the streets of Jerusalem or in the confines of Cairo. There are many poor miserable wretches indeed who turn their sightless sockets, for there is nothing of the globe left, towards us in soliciting alms, but they have much reason to be grateful that this frightful malady is not worse in its effects than it is. There must be something in acclimation, or in a hardening to the disease; for if this ophthalmia should continue to sweep with the malignant virulence throughout Egypt and the East, as it did when it spread havoc through the French and British armies, there would not in truth be left any to see the light of day, and so far as the inhabitants are concerned, there would, indeed, be "darkness over Egypt."

It appears to me, from facts that I could gather, that the affection must be hereditary, as children have been born who are affected with

Digitized by Google

the disease as soon after birth as an examination could be made, and I have heard, but without sufficient authority, I fear, that a post-mortem once revealed the existence of this dreadful disorder in the fœtus. Certain it is, generally speaking, children are born with the eyes closed, and remain so for a time, more or less short, so that it is not reasonable to suppose that they should have contracted the disease immediately on exposure to light, or that the disease should be found advanced even to the suppurative stage so early. I was assured that some children lived to an old age (blinded from infancy) with this affection. Very often I observed many to have lost completely one eye by the escape of the humor and the collapse of the globe, while the other eye remained healthy, or sufficiently so to be useful as a seeing organ, yet both eyes sympathize throughout the disease. The disorder prevails to a much greater extent in the towns and villages than it does in districts essentially rural. For instance, in Jerusalem, in Syria, in Cairo, and in several towns of Egypt, we see far more than we do in the desert, or in regions near Jericho and Jordan. It is far more rare to see the raw Beddwy afflicted than it is the denizen of the town. In the village of Siloam, on the mountain side, in sight of Jerusalem, the ophthalmia constantly prevails to an alarming extent. Strange, then, should the disease be contagious, that none of our party was attacked. There was one gentleman with us whose left eye had been badly inflamed, attended with a little chemosis, ever since we sailed from Malta, and which was aggravated to some extent on his arrival in the Holy Land. But an alum curd and a dose of sulph. magnesia completely cured him, showing that it was not of the variety known as Oriental ophthalmia. I myself was attacked when I had arrived, some two or three months after, in the United States, with what I thought a species of ophthalmia of a non-malignant type. I paid no attention to it at first, thinking it a temporary inflammation caused by exposure to sharp winds; but the inflammation deepened, there was intense pain, and after a day there was every evidence of granulations and a muco-purulent discharge, which was slightly excoriating to the cheek as it poured over it. I first tried general depletents or drastic cathartics, at the same time using light collyria of aqua camph. aqua ros. and zinc, but the only effect was to add to the inflammation. The eyes were fast agglutinated in the morning, and the simple act of freeing them was excessively painful and aided to keep up the irritation present. I then, at the advice of a fellow-physician, who concurred with me, tried nit. argent., in strength,

Digitized by Google

half grain to the ounce aqua dist., at the same time, from urgency of the moment, blistered the temples. The attack was moderated, and the progress checked; yet so soon as the silver was dispensed with, so soon would one or both of my eyes take on most violent inflammation. Finally, I thought of Dr. Sichel's favorite astringent, zinc, sulph. in certain obstinate cases. I used it in proportion, gr. xx to ounce; but, instead of water, the vehicle I employed (allow me to say it was suggested) was the white of an egg, which is nothing in itself. With this strong preparation, I moistened the lids and globes a dozen times a day. The good effect was soon seen, and I now consider my eyes as permanently cured. Whether or not this was Eastern ophthalmia, I cannot say. If Eastern ophthalmia, it should have developed itself, according to the known nature of the disease, at an earlier date. It possessed several points of strong resemblance, however, but probably none more marked than those relative to the ophthalmia neonatorum. At all events, it was a troublesome affection, and I never suffered more from any other of the many evils "to which flesh is heir." I paid much attention to this disease while I enjoyed the opportunity, and, among other things relative to it, I observed a tendency in all afflicted to hold the head in such a position as to shield the eyes from light; this position diametrically opposed sometimes, as at sunrise or in the morning, and at sunset or in the afternoon. In fact, this attempt to screen the face is almost pathognomonic of the disease, according to my observation. Another fact which I observed was, that the redness of inflammation was at one time fasicular, and at another time diffuse, and sometimes diffuse in one eye and fasicular in the other. During its more active stages, there was a serous and muco-purulent discharge all the time. I made particular inquiries as to treatment, and found that a strict attention to cleanliness, of which the Turks and Arabs are not guilty, a good tonic constitutional treatment, an active depletion, and the use of acet. plumb., and nit. argent., is a most efficacious and satisfactory mode; although there is some danger of a corneal speck being produced by the carbonate of lead formed in the employment of acet. plumb., yet I have never heard of such a result here. Astringents, cleanliness and tonics can be summed up as treatment.

Dr. Sichel, of Paris, a better ophthalmist than whom does not live, under whom the celebrated Desmarres studied, and to whose lucid teachings I was privileged to listen, treats purulent conjunctivitis, or ophthalmia of adults, thus: Cauterize in the first stages and only then,

Digitized by Google

deep and repeated scarifications of the chemosis, astringent injections freely administered and ice water to the lids. When there exists very much inflammation, Desmarres, also, often avails himself of this powerful anti-phlogistic, leeches, according to indications, and, in general, depleting agents, sometimes anodynes, all, however, given according to indications and according to the peculiar constitution under treatment.

Dr. Desmarres has a fine and concise chapter on this subject, which I have translated in full. At some future day I may furnish you with some extracts therefrom, or the chapter entire; it is from volume second of his late magnificent and most elaborate work on the eye—"Maladies des Yeux, par L. A. Desmarres."

ART. VIII—*Case of Artificial Joint of Right Arm with Complete Restoration of its Natural Uses:* Reported by E. M. PENDLETON, M. D., Sparta, Ga.

BEING called during the month of April last to the family of Wm. Harbin (a tenant of the Right. Rev. Bishop G. F. Pierce), formerly a soldier of the 59th Regiment, Georgia Volunteers, C. S. A., my attention was directed to the condition of his right arm, which had been wounded, by a Minié ball through the elbow joint, on the first day of the battle of Spottsylvania Court House. The olecranon and condyles had been removed; an artificial joint had been formed, and what I conceive to be a grand triumph of surgery, the subject was able to plough, use the axe, hoe, do all other labor as heretofore, with equal strength and agility, only he had lost the power to rotate the forearm.

On inquiry, I found that the operation had been performed by Dr. Iverson L. Harris, of Macon, Ga, who was the assistant surgeon of the regiment; that he persisted against the opinion of older members of the profession, to save the arm without amputation, and that when sent forward to the hospital at Richmond, he told Harbin whatever he did not to let them cut off his arm. As anticipated, the removal caused some inflammation to set up, and the Board of Surgeons determined on immediate amputation, declaring that, if restored, the arm

Digitized by Google

would be a useless appendage, etc. The soldier, firm to his instructions, would not submit, and the result has proven the wisdom and skill of his young surgeon, and secured to him a strong right arm, by which he is able to support a young and increasing family.

Deeming the case worthy of publication, I directed a letter to Dr. Harris to obtain the particulars of the operation, and received a prompt reply, from which I make the following extract:

"While I feel flattered by your complimentary notice of the operation I performed on Mr. Harbin's right arm, am sorry that I cannot furnish you with a history of the case. My field note book, case book and all papers, private and official, fell into the hands of the enemy, or were burned on the retreat from Richmond. The ball passed through the joint diagonally (as near as I can remember), terribly comminuting the head of ulna, with one condyle of the humerus. The incision H was made so as to give me room to remove all the injured bones, and believing that most of the anchylosed joints following resections resulted from removing too little, I tried to avoid that result. My impression is, that I removed the head of the radius with ulna, and both condyles of humerus, but, as before stated, my notes on the operation were lost. It was the first operation of that nature that had been performed in our brigade, and the favorable results induced our surgeons to try and save all arms that would admit of resection. I am pleased to hear that Mr. H. has such good use of the injured arm.

"I was assisted in the operation by Dr. West, Surgeon of the 7th Georgia Regiment, and operated at night, in the open air, by the light from two tallow candles."

It is proper further to state, that the arm is about three inches shorter than the other; that having no back support, it can be turned with equal facility in any direction; but so powerful have the muscles become, from constant use, he can hold a considerable weight with the arm at a right angle with the body. He can twirl the forearm around like a wheel, as if on an axis, can strike a blow with as much force as formerly, and perform all other functions and movememts of the arm about as well as ever, with the exception of rotation and pushing directly forward, or holding a weight perpendicularly above his head. In that case the heads of the bones of the forearm, have to slip back several inches below that of the arm, before he can poise the weight. This however, produces but little pain or inconvenience. But for his carefully following the directions of Dr. Harris, in using his arm, despite of pain, after the first process of cure, he would have no doubt had anchylosis, as resulted in the case of another soldier in the same regiment, from a subsequent operation.

Digitized by Google

ART. IX—*Chlorate of Potash as a remedy in Catarrh of the Bladder:* By S. F. STARLEY, M. D., of Fairfield, Texas.

I would call the attention of the profession to the chlorate of potash used as an injection in catarrh of the bladder. I was led to make trial of it last summer (1866) in a case that had resisted the whole routine of treatment laid down in our best works. The patient was an intelligent lady, of high nervous sensibility, aged about twenty-six years. The disease appeared soon after her first confinement, and I suppose resulted from prolonged pressure of the child's head against the neck of the bladder, as she informed me that her labor was a very protracted one. The affection was of more than twelve months standing, when she placed herself under my care. She had been treated by her family physician in another county before she came to consult me, and I was informed that the treatment had included a trial of the uva ursi, copaiba, buchu, tinct muriate of iron, etc., but no local application had been made to the interior of the diseased organ. Upon examination, I found the neck of the bladder exceedingly sensitive and the soreness extending in a less degree over the entire organ. The urine was thickly loaded with mucus, and pus globules were deposited in abundance at the bottom of the sediment. I treated her for more than two months, employing every remedy recommended by our best authors, and enforcing the strictest regimen. As a trial remedy, I used injections of nitrate of silver into the bladder, commencing with a weak solution, and gradually increasing the strength, until a solution of thirty grains to the ounce was tolerated. This remedy afforded some relief from the tormenting urinary tenesmus, but produced no permanent change in the quantity of deposit in the urine, and proved to be altogether inadequate to effect a cure.

Despairing of success with the usual remedies, I determined to test the effect of chlorate of potash, injected into the bladder. Accordingly, I prepared a solution of the strength of ʒi to ℥viii of water and injected four ounces of it into the bladder, directing the patient to retain it for half an hour. It gave scarcely any pain, and at my next visit I found that my patient was better than she had been for weeks, and that there was less mucus deposited in the urine. I then injected six ounces of the chlorate solution, and directed her to retain it as before. The next day I found her still more improved, and as the bladder was found to be perfectly tolerant of the remedy, I directed her to retain it for one hour. By my next daily visit, she had experienced an amount of relief

Digitized by Google

that rendered her buoyant and hopeful. After continuing this treatment for a few days longer, she was able to bear a specular examination of the cervix uteri, which was found to be in a state of granular erosion. This was cured by a few applications of the nitrate of silver crayon. The injections of the chlorate solution were continued daily for about two weeks, and afterwards once in two or three days, all other medication being suspended, in order to test the efficacy of the chlorate. The patient improved steadily under this treatment, and in one month from the time it was commenced was quite well.

It is proper for me to state, that since then I have tried the chlorate injections in a severe case of the same disease in an elderly lady, and that although some benefit followed its use, it did not produce the prompt effect that it did in the first case. This patient was finally cured by the usual course of treatment, including strong injections of sol. nitrate of silver into the bladder. The above is written with the hope of inducing others to test the efficacy of chlorate of potash is an injection in one of the most painful and distressing maladies that flesh is heir to, and one that too often baffles the skill of the best informed physicians.

ART. X.—*Eclampsia; or, Puerperal Convulsions:* By D. WARREN BRICKELL, M. D., Professor of Obstetrics, etc., New Orleans School of Medicine.

LECTURE.

GENTLEMEN—One of the most trying ordeals to which the practitioner of medicine can be subjected is to be assigned the care and responsibility of a case of "Puerperal Convulsions." It is an occasion which elicits all our courage, all our energy, all our self-possession, and all our professional acumen. As practitioners, we become accustomed to the mere aspect of the patient; and it is well that it is so, for mental perturbation on this account would annihilate our usefulness. But not so with the husband, or mother, or children, or friends. To them all is hideous, and all are more or less cognizant that dire evil is threatened, and that time is limited; consequently there is poured forth an appeal to our energy,

Digitized by Google

whether it be in agony of words or looks, that truly tries the stuff of which we are made. The puerperal woman, under all conditions of disease, elicits the fullest meed of sympathy and anxiety from surrounding friends, for it is not only the physician who has learned that the conditions of gestation and labor induce peculiarities which render her more actively sensitive to impressions; but when she is suddenly launched into the dangers of Eclampsia, then the physician feels himself thoroughly isolated in point of responsibility, and to himself he must look for everything.

Having experienced all this, and knowing that we have yet much to learn in relation to the affection, I assure you I approach the subject, as a teacher, with more diffidence than I experience at any point in my course; and I prefer that you would regard what I have to say rather as a guide to investigation than complete practical conclusion. I believe I have arrived at better practical results than are generally expected under the prevalent plans of treatment, but there is so much to be learned of the essence of the difficulty encountered that I am assured a more complete plan will be yet be worked out, and to this task I heartily urge you.

My efforts shall first be directed to definition of the condition we are about to consider, and not only by giving ultimate expression to the same in as few words as possible, but by making comparisons and drawing general distinctions. But there is one step which should be precedent to all others, and that is to determine what constitutes "*Convulsion*" in the general sense of the term, and whether the same is not confounded with another and somewhat similar condition, generally termed "*Spasm.*" We read the books in vain to arrive at any conclusion on this subject, and I for one, find myself forced to draw my own distinction.

Within the domain of physiology proper we find that there are distinctly *convulsive* phenomena, and under one and the same immediately exciting or arousing cause the physiological may become pathological phenomena, and we are at a loss to say where the one set ends and the other begins. The anatomist will tell you that one portion of the lip is covered with dermoid and the other with mucous tissue, and yet he cannot with the edge of his knife define the separating line. In fact the two structures are said to run "insensibly" the one into the other. So it is with *laughter*, a true *physiological convulsion.* Something ridiculous arouses laughter in the "nervous woman;" she laughs, as we say, immoder-

Digitized by Google

ately; or, as we say again, she is "convulsed with laughter." All this we still denominate "laughing"—a physiological condition. But suppose the woman loses what we call "control" of herself, she can, as we every now and then see, go into the "hysterical" state, and this same laughter, which seemed at first so innocent, indeed pleasant to herself and those around her, becomes exhausting to her and even alarming to others. More, if perchance there be a susceptible female present, the laughter absolutely becomes communicable, and we have a second case of "hysteria" developed. Reading the beautiful lectures of Prof. Samuel Henry Dickson, lately published in the Richmond Journal, we find that he mentions the anecdote told by Southey in relation to John Wesley, who, walking in the fields in a prayerful mood with his brother, while rebuking his brother for laughter which had unaccountably taken possession of him, became himself convulsed, and the two had to go home in despair of controlling themselves. A common occurrence is to see susceptible persons, male and female, become convulsed with laughter, laughing until the tears will even stream from their eyes merely because others are laughing in their presence, and without having understood the humor which occasioned the first outburst. Humor directed to our senses of sight or hearing produces laughter, and often extorts it from the gravest member of the community. We are all aware that laughter in moderation is pleasant, both to him who indulges in it and to him who witnesses it; but who, unless he be a stoic, has not experienced the real pain of immoderate laughter? Who has not laughed until his "sides ached?" In other words, this physiological convulsion is only exceptionally under the complete control of the will or intellect, as a rule it is partially under control, and the moment it becomes so immoderate as to be utterly uncontrollable it is very apt to become disagreeable to bystanders and even painful to the subject himself.

All this is said of laughter produced by emotional impression. But the very same train of phenomena can be induced by the physical excitant called tickling. Not only can immoderate laughter be produced by titilation of particular parts of the surface, as of the soles of the feet, the axillary region, etc., but we can run the physiological into the emotional irritant by exciting laughter through the mere attempt to tickle. It is highly probable that the laughter produced by tickling is never pleasant, and many an infant is thus punished by kind parents for their own amusement. The susceptible person will always avoid tickling as

Digitized by Google

unpleasant. In the history of persecutions we learn of persons absolutely tickled to death, and I can, judging by my own feelings, well imagine that such a thing is thoroughly possible, and that the mode of death must be horrible in the extreme.

But emotional laughter is not confined to the waking condition, when the will can be exercised. In our sleep, amid our pleasant dreams, we laugh heartily. Here the cause is purely emotional, but the act is purely automatic. Even little children give us striking examples of this condition.

The two causes of laughing in the healthy subject, emotional and physical, being admitted, it being shown how difficult it is to say where the purely physiological emotional laughter runs into that excess which can no longer be termed physiological; and it being out of the question, in my opinion, to say that laughter the result of titilation is physiological at all, the question very naturally comes up as to whether there may not be a deeper pathological cause of laughter than any alluded to.

Who has not seen the lunatic almost constantly laughing, and yet to those around him there is nothing to laugh at? I have myself seen a noble physical man, in the midst of his last attack of delirium tremens, laugh immoderately even almost unto his last gasp. A friend who has taken haschish experimentally, assures me that one of its early effects is to produce immoderate laughter, utterly beyond the control of the will. A class of truly hysterical women, who rarely laugh when well, do so immoderately when attacked with their malady. Here is the same convulsion, but the common causes are absent, health has fled from the subject, and the common idea of the profession is that only these cases are pathological in cause. To my mind this is but a lower depth in pathology. Real physiological laughing was lost when the will had so completely lost control as to make laughing cease to be a pleasure. If we only view as pathological those aberrations which present a grave aspect, we shall be studying an important subject only at its end, and we shall never reach any valuable conclusions.

So much for one of the commonest and simplest forms of convulsion. Allied to it are *sighing*, *sobbing*, *crying*, *coughing*, *sneezing* and *hiccough*. You are all aware that sighing, sobbing or crying are emotional in cause. Grief may induce them, but they may also make their appearance in the hysterical woman, even unto excess. At the same time, like laughing they are communicable through what is called sympathy,

Digitized by Google

and in mania or delirium tremens they are often troublesome and prominent symptoms. They are also induced by physical irritation, called pain, inflicted in a variety of modes.

Coughing, too, which, in its simplest form (as when we resort to it to rid our air passages of foreign bodies suddenly applied), is distinctly a physiological act, in conditions of disease (as in pneumonia or catarrh) may or may not be physiological. If only aroused to discharge irritating substances that can and should be expectorated, I should call it physiological—Nature's successful effort. The cough, however, induced by an attack of pleurisy, or so commonly present in large hepatic abscess pressing upwards, and which is painful and distressing without any concomitant good resulting, must certainly be regarded as belonging to the pathological train.

Strangely interesting, too, is the so-called hiccup. It is an everyday thing to see the sucking infant the subject of hiccup after sucking. It is fat and hearty, thriving daily, and although this symptom may occur after every nursing, no importance is attached to it. I, myself, every now and then have an attack lasting half an hour or so, and it is sometimes really distressing; but I have noticed that it is invariably accompanied with an empty stomach, and nearly always a half tumbler of water taken into the stomach will stop it. A friend tells me that his attacks are induced by attempts to swallow dry crumbs of bread. All of you, perhaps, have witnessed the hiccup of the inebriate; if a man who is drinking begins to hiccup, he is universally acknowledged to be *drunk*.

These are some of the common forms of hiccup, to which we attach no importance. I do not see how any of them can be denominated physiological, for it is certainly an abnormal convulsion—a certain something entirely outside the circle of those phenomena naturally peculiar to our species. But the very same phenomenon may display itself under circumstances to excite our deepest alarm, and it becomes a symptom of grave pathological conditions. The hiccup late in acute diseases of grave form, or the hiccup of the old man or woman depressed by disease, which in the young we would attach no importance to, this is a symptom to which the acute practitioner never turns a deaf ear; and even when we avert a fatal result, patients will tell you that it is often suffering inexpressible.

Even the act of *sneezing*—distinctly convulsive in its nature—which seems ordinarily clearly physiological, and which only amuses the

Digitized by Google

beholder, may run to such an excess as to become alarming. Prof. S. H. Dickson, in the lectures referred to, tells us of a man sneezing several hundred times continuously. We can well imagine the distress that must exist under such circumstances, and it requires no stretch of the imagination to picture grave results under such circumstances. I have, myself, recently seen a woman the subject of protracted and grave epistaxis the result of a severe fit of coughing and sneezing, the cause of which she could not divine.

Have we any *spasm* which can come under the head physiological? In my opinion the only condition that can be so construed is that called *yawning* or *gaping*. This is a peculiar condition that is generally developed in us when a sense of lassitude or weariness takes possession of us, and more especially when the mind is inactive. Positive weariness may be induced by either physical or mental labor, and after remaining quiet for a little while the disposition to yawn or gape comes over us. After our day's work is done, if quietude exists around our hearthstone, we are apt to find ourselves gaping as bedtime approaches, and as we grow sleepy, positive yawning takes possession of us and becomes irresistible. Strange to say, this condition, too, is communicable. In the family circle, when we are seated quietly around the fire, if conversation flags and some member gapes a few times, almost certainly others will do the same thing. Amid the same silence, if the legs of a pair of tongs are carelessly opened and closed a dozen times, we find very soon that gaping commences and spreads through the whole company. A friend assures us that many years ago he saw in Paris a drawing of a yawning man so lifelike, that it was the exception to find any one capable of quietly contemplating it without yawning. Here we see the emotional causes of the simplest form of spasm displayed; but, as in convulsion, this very form of spasm may show itself under circumstances that make it an evidence of grave pathological changes. In physical shocks of the brain, we dislike to see the patient yawning; in the lower forms of disease it is a disagreeable symptom; in the progress of yellow fever it is an ugly sign.

Passing from the consideration of muscular actions—whether convulsive or spasmodic—in which physiology and pathology seemed almost combined, let us pause for a moment to consider those (altogether convulsive) which are not common like laughing, etc., which cannot be considered as other than pathological, which rarely excite our anxiety, and yet are strange to contemplate. Under this head must be classed

Digitized by Google

that curious array of strictly emotional convulsions which ensue under so-called religious enthusiasm, and sometimes under the influences of mesmerism. Those of you who are familar with camp-meeting scenes will hardly have failed to witness the positive convulsions, nearly always accompanied with "shouting," and not unfrequently with sobbing, moaning, or with vacant laughter, which will possess individuals under the terrible "exhortations" issued from the pulpit. I look back now into the days of my boyhood and I see, amid the furious clamor and contortions of the exhorter, a respected and highly esteemed old lady of the neighborhood falling backward from her bench, convulsed and screaming, requiring several men to hold her and prevent her from injuring herself physically, and this thing continuing until she would sink from pure exhaustion and have to be placed in her carriage and carried home. Nor would it stop with her. The emotional communication would be almost immediate—men, women and even children falling under the influence. The howling dervishes of the East afford another striking example of this strange excitement; and in this country, some forty years ago, the famous "Kentucky jerks," of which we have all heard more or less, passed through a large part of the West and South. This convulsion, according to Professor Dickson, though "originally rooted in pietistic emotion, came at last to affect great masses by mere attention, and a sort of sympathy, difficult to appreciate; for it did not involve any community of sentiment or interest, but spread, like laughter and yawning, involuntarily and unexpectedly, seizing young and old, males and females, the good and bad, the indifferent and the reluctant alike."

As violent and positively exhausting as many of these strange demonstrations were, and still are, little or no importance has been attached to them in a medical point of view, for probably no direct fatality has ever attended them, and, being based upon religion, they have been regarded as without our domain. It is difficult to believe, however, that instances of serious temporary, or even permanent, mental aberration have not followed.

Have we any instances of *Spasm* other than yawning or gaping, which, although pathological, rarely arouse anxiety for evil results, and, consequently, are rarely set down on our list of diseases? I say, yes. Probably many of you have been awaked from your sleep by spasm of the gastrocnemius muscle. Often are we called on to wince under a sudden "crick of the neck." Many a school-boy has almost

Digitized by Google

fainted under spasm of the deltoid muscle, the result of too great an effort to hurl the ball at his antagonist in play. Every gymnasium is the scene of spasm of suddenly overstrained muscles. Many a robust laborer has attempted too heavy a lift for his capacity, and has sunk with pain from spasm of the muscles of the back. These are some of the numerous minor spasms we every day witness.

But before we go farther, let us establish what we mean by the terms "Convulsion" and "Spasm." As I said before, we must rely on ourselves, as the more we read on the subject the more complicated does it become, and simply because each individual attempting a definition invades, or tries to invade, the domain of the *cause* of the conditions, and hopelessly entangles cause with effect. When I am told that a man has diarrhœa, I understand that there exists a train of symptoms thus designated, When I come to treat him for the affection, if I can divine the cause, and it is removable, I remove it. If the cause has existed so long as to produce secondary impressions, it may be incumbent on me to direct remedial measures to these independent of the cause. Herein is the most satisfactory and rational treatment. But, in the insufficiency of our knowledge, we may be unable to describe the cause, and even to not fully appreciate secondary impressions; then our treatment becomes wholly empirical and unsatisfactory. Here we would be treating mere symptoms—diarrhœa—,whereas, in the former case, we would be striking at the root of the symptoms, or the secondary impressions produced by the unchecked sway of the same. When we behold a plant growing before us, how limited an idea of it have we, if we go no farther back than the mere plant itself. To fully appreciate it we must think of the soil in which it is rooted, of light, air and moisture—all combining to bring it forth and sustain it. In other words, the plant is but a sign of the power of nature. Take away the aitributes of nature alluded to, and your plant perishes. Let there be no such attributes in the future, and despite of so called seeds, there are no more plants.

But for our present purposes it is only with naked symptoms that we deal. Either convulsion or spasm are but the outward manifestations of an intricate something yet to be thoroughly developed to our understanding. I propose, then, to define them thus—*Convulsion*, a *clonic* and more or less violent action of muscles, one or more, unattended with pain in the same, and with or without impairment of intellect. *Spasm*, a *tonic* and more or less violent action of muscles, one or more,

Digitized by Google

as a rule attended with pain in the same, and exceptionally attended with impairment of intellect.

To convulsion there belongs the characteristic of antagonism of muscular action, as in the alternate violent action of flexors and extensors of the extremities; the action lasts for a half minute, or a few minutes, then there is perfect rest, to be sooner or later followed by renewal of action. In spasm antagonism is absent. There *may* be motion, but it is spasmodic motion, in contradistinction to convulsive motion, the former never, or to a limited degree, directly displacing the subject. This for general convulsion. There may, of course, be convulsion or spasm of a limited number of muscles, and in neither case would the position of the subject be affected.

In reading on the subject of Puerperal Convulsions, you will find that authorities in general announce a subdivision of the subject, and treat of Hysteric, Tetanic, Epileptic, Cataleptic, and Apoplectic Puerperal Convulsions. This I regard as one of the most unfortunate as well as unphilosophical courses that could have been adopted. It is unfortunate, because it wantonly complicates an already intricate subject; it is unphilosophical, because all authors agree that Eclampsia is a disease *sui generis*, and then they attempt the task of assimilating it to half a dozen other diseases. For myself, I have seen the puerperal woman suffering from hysteria, epilepsy and catalepsy (never from tetanus or apoplexy), and I have seen Eclampsia time and again in all its intensity, but the latter is as totally different from all the former as yellow fever is different from typhus gravior. And when you encounter in practice the advocate of the subdivision indicated, unless he is the victim of obstinacy, you will find that he too, while he may hug the pet theory of a variation of type in Eclampsia, will be quick to define this affection in its essence by at least uttering a prognosis which can rarely, if ever, be applied to the other affections named.

I have no hesitation in saying that, in my opinion, no man ever saw a case of hysterical, epileptic, cataleptic, tetanic, or apoplectic *Eclampsia Gravidarum*; and any such imagined conditions are affections totally different from the one which is the subject of our lecture—with one modification, viz: that a case of Eclampsia proper, as a result of existing phenomena may become apoplectic. This leads us at once to the consideration of other convulsive and spasmodic affections than those mentioned, which are entirely out of the domain of physiology, which rank among so-called diseases, and to remedy which the physi-

Digitized by Google

cian is called in. First is hysteria, and such is the protean form of this disease, that we may have either hysterical convulsion or hysterical spasm. I have often seen women (pregnant and non-pregnant) in violent hysterical convulsions, and every now and then I encounter a case of hysterical spasm. I recollect well a case of a very peculiar nature that frequently appeared at the Pennsylvania Hospital when I was a student of medicine. It was that of a delicate hysterical young female, who, at every catamenial recurrence, would be seized with violent spasm of the masseter muscles. A properly shaped hickory wedge was kept in the apothecary shop, her jaws would be prized apart, and then she was relieved for that time. On one occasion this girl applied, through a friend, to the dispensary for relief; I was detailed to visit her, and I found her with violent hysterical convulsions. So that, in the very same individual, we have spasm and convulsion illustrated.

Second, we have a peculiar convulsive condition called chorea; more or less intense; sometimes so intense as to utterly neutralize the will to accomplish a given act of motion. That is, an individual will attempt to walk forward, and she will go backward; she will attempt to seize an object before her, and the hand will be thrown behind her. This affection is generally observed in delicate children, but I have seen it in marked degree in the robust, and it attacks adults. Indeed, in Continental Europe it has been known to become positively epidemic, affecting large portions of a given population.

Probably the next most common form of convulsion that we witness, is the so-called reflex convulsion of small children. A child is apparently well and hearty, but it fails to digest a given meal, and convulsions ensue on irritation of the bowels. Or the irritation of cutting a tooth induces the same phenomena. We free the child of the crude ingesta, or we lance freely the turgid gum, and the convulsions cease.

But not only convulsions appear in such subjects from such causes. I have, myself, seen distinctly spasmodic phenomena substituted. My mind often recurs to a case of violent general tetanus in a little boy whose stomach still retained, totally undigested, a large quantity of ham which had been eaten twenty-four hours before. The jaws had to be prized apart and a tube introduced through the length of the œsophagus before an emetic could be put into the stomach. But free emesis removed all tetanic symptoms, and recovery was prompt.

But, in stepping from hysteria and chorea to the convulsions or

Digitized by Google

spasms of children named, we must mark two important features that arise before us—two that have not before appeared—viz: loss of intellect or consciousness, and laryngeal difficulty. In pure hysteria and chorea there may, at most, exist mental aberration; but in the convulsions under consideration, intellect is annihilated for the time being. Not so, however, in the spasm from same causes. Here intellect remains intact, and it is here that we for the first time see the finishing distinction being drawn between convulsion and spasm. So, too, with the laryngeal difficulty—laryngismus. Wherever the convulsion shows itself, the laryngismus is a primary part of the succession of phenomena. I cannot now call to mind a single case of pure general convulsion in child or adult, not hysterical, and sudden in its accession, where laryngismus and annihilation of intellect were not among the earliest in phenomenal succession. In spasm from same causes neither condition appears.

And now we reach the consideration of the two great types of pathological convulsion and spasm—viz: Epilepsy and Tetanus. The former, occurring from whatever cause, presents us the combined phenomena of absolute convulsion, laryngismus, and coma. Still, under the force of professional consent, cases are acknowledged as epilepsy, without convulsion or laryngismus existing—a simple momentary loss of consciousness being the only symptom recognized. Between the simplest form and the type case alluded to, there are many grades, and all are termed epilepsy. Strange to say, too, the identical phenomena we have named, in any degree, can be the result of physical change in the brain structure, of simple depression of the cranial vault, of too great mental effort, of the retention of crude ingesta—in fact of causes utterly divergent in their nature.

Then, when we come to consider the type case of real pathological spasm—Tetanus—, while beholding an individual overwhelmed by the general tonic muscular action, without laryngismus or impairment of intellect, but with pain accompanying the action, we see something in phenomenal manifestation totally different from epilepsy, far more dangerous immediately, and yet to be readily awakened by some of the same causes, and the causes as widely divergent in their nature as are those of epilepsy. For instance, I have seen the purest general tetanus the result of the retention of crude ingesta, and this is one of the causes of epilepsy. Nor is there any difference (phenomenally) in the tetanus produced by such crude ingesta and that produced by a wound (whether

Digitized by Google

slight or extensive), or by exposure to cold or wet, or both comoined. Yet, under our system of nomenclature, the tetanus from a wound is called *traumatic*, and that from the other causes, *idiopathic*.

Thus, I have lead you on in a necessarily cursory manner, from the consideration of the simplest forms of convulsion and spasm to the most complicated and dangerous—excepting only the subject proper of our lecture. Here, I think, is the proper place in which to put before you a description of the paroxysm of Eclampsia gravidarum, and in order to exclude the idea of my warping matters to suit my own views of things, I quote *in extenso* the graphic picture found in Cazeaux's work, and by him quoted from the inaugural dissertation of M. Prestat.

"The expression becomes at once completely fixed, and there is a moment of general immobility. Then, if the patient be attentively examined, the muscles of her face will be found agitated by slight, limited and very rapid movements, which, however, are perceptible through the skin; these movements become more and more marked, the features are wholly altered, the muscles of the face contract in a thousand ways, and she grimaces horribly; the eyelids are agitated by an incessant winking, though they are wide enough apart to bring the ball of the eye into view; the latter rolls in the orbit in every direction, and then becomes fixed on one side, where it remains stationary; the pupil is dilated and immovable; the muscles of the alæ of the nose, being forcibly contracted, draw the base of the nostrils outwards, and thus render its extremity sharper; the lips are in continual motion; and one of the angles of the mouth is drawn towards the same side as the eyelids, that is, to the one towards which the head is inclined; the mouth, being at first partly open, permits the tongue to hang out, which latter is excited by irregular movements, and is thrust forward between the dental arches; and unless the precaution be taken to return it, or to prevent the closing of the teeth, the masseters force the jaws together, and the tongue is severely bitten or bruised. The small muscles of the chin, by contracting, likewise render its extremity more pointed; so that, according to the comparison of M. Dubois, the woman's countenance then looks like a satyr's.

"The convulsions never appear to this extent in the muscles of the face, without soon invading those of the extremities and trunk; affecting the extensor muscles particularly, the contractions of which overcome those of the flexors. The arms, being forced along the sides, and sometimes held a little in front of the trunk, though often turned in a

Digitized by Google

forced pronation, are excited by small convulsive jerks; the fists are usually clenched, and the thumb is either flexed into the palm, or else extended between the index and the radius; the lower extremities exhibit a similar extension, and the same spasmodic jerks as the arms; the body, also, is in a state of almost permanent extension; whence it follows that the continual tendency to throw herself about, and to change her position every instant, is not met with in this affection, as it is in many other convulsive diseases; for when the woman is placed on her back, she retains that position during the whole duration of the fit and there is no necessity for taking any precautions to prevent her from falling out of bed, or from striking herself violently on the face or other part of the body.

"The muscles of the hollow organs do not remain altogether indifferent to the disorder in the external muscular apparatus; for the fœcal matters, the urine, and the contents of the stomach are often expelled by the convulsive contractions of the reservoirs in which they had accumulated.

"The respiration is interrupted, noisy and effected by continual jerkings without any regular order; sometimes, indeed, as Mad. Lachapelle has observed, it is wholly arrested by the spasmodic contraction of the diaphragm and other muscles of the thorax."

Now I will not stop to cavil about minor points in the drawing of this picture; I do not think the shading all that it should be, but for all our practical purposes it is a good picture, and we will adopt it. I must complete the description, however, by telling you that when the foregoing symptoms, even in far lighter degree, are present, there is annihilation of intellect and either suspension or great diminution of hæmatosis. In other words, the subject of *Eclampsia gravidarum* is totally unconscious of things transpiring, and the manifest lividity of surface shows that the blood is no longer properly oxygenated; and I must impress on you the fact that these two conditions exist as well in the first—and in the beginning of the first—as in the fortieth paroxysm; always admitting that they may be, and are expected to be, intensified as paroxysms are repeated. I never saw a case of *Eclampsia gravidarum* wherein the patient was at all conscious of what was occurring or had occurred, or wherein lividity was not a striking phenomenon.

I contend, then, that, laying aside all minor distinctions, there are two prominent characteristics which distinguish Eclampsia from Hysteria, Chorea, Tetanus, Catalepsy, and the minor convulsive and spas-

Digitized by Google

modic conditions we have been considering. 1st, intellectual annihilation; 2d, arrest or diminution of hæmatosis. Add to these a third, which is arbitrarily forced on us by experience, viz: grave prognosis—and there is no confounding them. I meet with hysteria in the pregnant woman, even unto positive convulsions; but I detect the absence of the two first named characteristics, this at once forces me to exclude the arbitrary third, and I no longer entertain the idea that Eclampsia is before me. Within a week a medical friend has called me at midnight to a pregnant woman in convulsions, he supposing the case to be what we call Eclampsia; a glance at the woman in a paroxysm shows the case to be divested of the great characteristics; an anodyne is administered, and next day she is all right.

But here let me say, that when I speak of arrest of, or interference with, hæmatosis, I do not confine myself to the limited idea of the withdrawal of the accustomed oxygen, and the consequent surcharge of carbonic acid. On the contrary, I would regard these as but the beginning of the evil to be guarded against, and which, in my opinion, rapidly assumes shape, viz: the utter vitiation of the life fluid—the rendering of it unequal to the reconstruction of tissue.

But there is one convulsive affection to which Eclampsia is more closely allied in a phenomenal point of view than to any other. This is Epilepsy. So close is the similarity, that I have seen medical men who contended for identity. I will not detain you with the details of an epileptic paroxysm. It will be quite sufficient to point out the differences between the two. 1st, Epilepsy has two general forms, mild and intense, and called by the French "*le petit mal*" and "*le haut mal*"—that is, the little and the great evil—, the first characterized by a loss of consciousness, with little or no convulsive acts; the second, by loss of consciousness and general convulsion. I do not think there is any ground for such subdivision in Eclampsia. 2d, It is the exception to find Epilepsy not characterized by what is called the "aura," or warning. I have closely sifted eclamptic subjects, and I have thus far failed to find one so warned. 3d, Epileptics are strictly convulsed; these convulsions are marked by antagonistic action of flexors and extensors; they change position in the midst of the paroxysm; they fall from beds and chairs; and with their arms and hands they injure themselves or friends, if not restrained. The eclamptic woman becomes rigid (being bent backward or to one side), and her limbs are fixed in extension; she does not require to be held, and motion, properly so-

Digitized by Google

called, is very limited. Then we may add to these phenomenal differences—1st, Epilepsy occurs to both sexes, in all ages. Eclampsia is peculiar to the pregnant or parturient female. 2d, Epilepsy is distinctly disposed to become chronic, and to last through years, recurring at long intervals, and it rarely kills speedily. Eclampsia is acute and overwhelming—less than twenty-four hours generally deciding the issue, and a few days being the full term of duration.

I have reserved for the last a comparison of Eclampsia with Apoplexy. How the idea of similarity of these two affections has ever gained on our profession, I am at a loss to conceive, and the more I see of the two affections, the farther do I wander from the popular path. Apoplexy is not a convulsive or spasmodic disease at all. In its acute stage, it is the rare exception to see any convulsive phenomena, and even when these are witnessed they are far from being general. When change of structure takes place as the result of profound apoplexy, convulsive twitchings also occur, but here again there is absence of the general and intense muscular perturbation which characterizes the Eclamptic paroxysm. The fact is, the existence of that thing called coma in the affections has led to the confounding of the two. The strictly apoplectic man exhibits stertorous breathing, loss of intellect, and loss of sensation. So does the eclamptic woman; but I contend that in the apoplectic subject there is not that great striking peculiarity which belongs to eclamptic and epileptic subjects—the lividity which is acutely the result of non-æration of the blood. The apoplectic, as he sinks towards the grave, as his respiration becomes slower and slower, may become thus profoundly livid; but the eclamptic woman presents this phenomenon from the beginning. In other words, laryngismus characterizes the eclamptic subject, while no such condition is known to the apoplectic, or if it exists at all, it is wholly secondary.

But, why does a man have Apoplexy? He may be in apparent perfect health, but he indulges in such physical exertion as induces a sudden rupture of a cerebral vessel, blood is effused, he falls, and death either quickly or slowly ensues. This is one form—*sanguineous apoplexy*. He may be what we call a robust man, and may be passing through some other disease; local symptoms, not at all dangerous in themselves, may suddenly disappear, he becomes quickly comatose, dies, and examination reveals effusion of serum on some part of the brain. This is another form, called *serous apoplexy!* Again, he may be in apparent health, suddenly falls, dies, and examination reveals nothing that

Digitized by Google

we appreciate. This is called *simple apoplexy*. Again, he may, during several months or years, exhibit symptoms of cerebral distress, but may eat, drink, sleep, pursue his vocation regularly, and one day he suddenly falls to rise no more. Examination reveals a true change of brain structure—a breaking-down of tissue. This case is not called *Apoplexy*. It is termed *Ramolissement!* One more condition. A man in good health takes ten grains of morphine: no one is cognizant of the fact: he is found in his bed the subject of deep coma: you are called to him, and find him thus; you can get not one item concerning him, no history of him; you have to take him as you find him. Authorities agree that his is a distinctly comatose condition. The man, under accepted definition, is in an apopletic condition.

Can there be greater confusion than this? Is it not of the highest importance that we shall not let similarity of symptoms lead us to confound different diseases? And yet how easy is it for the indolent mind to lapse into this practical confusion. Now, I do not propose to enter into a discussion of the principles of treatment involved in these different forms of so-called Apoplexy. One thing must be clear to your minds, however, and that is, they cannot all be treated alike and successfully. It is certain that different circumstances have tended to produce symptoms which to our observation have seemed identical; if we stop at the mere manifestation of symptoms, our treatment would be the same in all; but when we are told that lifting a heavy weight developed one case; that sudden disappearance of prominent and remote local symptoms seemed to develop the next; that long-continued cerebral disturbance characterized the next; and that ten grains of morphine developed the next, then are we commanded by our reason to vary our tactics. How important, then, is it that you shall not got go forth into practice with the too popular idea that cases of Eclampsia are *Apopletic*—an assertion which really means nothing.

And it is easier to apply the same line of reasoning to the Epileptic theory. Some of the proximate causes of Epilepsy are well known and removable; others are utterly beyond our present knowledge, and empirical treatment amounts to nothing. The study of Epilepsy, too, shows that it is a Protean disease, whereas Eclampsia, in its outward manifestations, exhibits no such charaeteristic. How unreasonable, then, to enter the lying-in room with the preconceived theory that Eclampsia is an epileptiform disease!

And so with Tetanus. Because there is spasm in both Tetanus and

Digitized by Google

Eclampsia, therefore Eclampsia is a tetanoid disease—the cerebral manifestations, so utterly at variance in the two affections, being entirely ignored.

Eclampsia, then, is not Apoplexy. Apoplexy is *coma* suddenly or rapidly establishing itself, *without convulsion or spasm*—that is, without abnormal muscular action of either the tonic or clonic kind.

Eclampsia is not Epilepsy. Epilepsy is, as a rule, *clonic convulsion* of short duration, attended by transient coma. As the exception (and not rare), Epilepsy is coma, more or less complete, sometimes almost momentary in point of duration, and *without convulsion or spasm.*

Eclampsia is not Tetanus. Tetanus is *tonic* muscular action—spasm —*without coma.*

What, then, is Eclampsia? I say it is *tonic* muscular action—spasm —*with coma.*

These are definitions, gentlemen, of the different affections in their outward manifestations. It is another thing to dive down to the causes of the phenomena manifested to us and there fix the essence of the disease. I draw these distinctions for the purpose of inducing you to avoid confounding diseases which are only somewhat similar, and to stimulate you to deeper investigation than has been hitherto pursued for clearly distinguishing diseases so important in their nature.

(To be continued.)

ART. XI.—*A Case of Diabetes, with Remarks:* By J. S. WEATHERLY, M. D., Montgomery, Ala. (Read before the Medical Society of Montgomery.)

FEBRUARY 14th, 1867, I was requested by Col. J. M——l, then of this city, to see his son. On calling, I found a youth of some 17 years of age, pale, and of a delicate appearance generally. He informed me that he had suffered from gonorrhœa and also an eruption of some sort upon his penis. This, however, was pronounced non-syphilitic by one of the most intelligent physicians of the city. He now complains of great lassitude and thirst; tongue dry and red, slight fever, and says that he feels quite feverish at night and very tired on awaking in the morning. At this visit I make special inquiry as to his evacuations, both from

Digitized by Google

bowels and kidneys; he remarked that his urine was all right, but that his bowels were constipated. He also informed me, upon inquiry at this visit, that he had been suffering from intermittent fever for nearly twelve months, but had been clear of it for a month or six weeks previous. He voluntarily confessed to me that he had been a very dissipated boy, and was disposed himself to attribute his present bad state of health to his dissipation. My prescription to-day was a mere placebo, intending to watch the case for a few days, so as to satisfy myself as to his real condition. I simply prescribed chlorate potass, and ordered a warm water enema, to be administered at night, with milk, eggs and a good article of Rhine wine as nourishment. This was continued for about six days, when having my suspicions aroused as to the action of his kidneys, I asked to see his urine. On looking at it, I was satisfied, from the quantity and from the light amber color, that he was suffering from diabetes mellitus. I had some of his urine put in a vial, and, with the assistance of my friend, H. B. Metcalf, found that it was very rich in sugar. We tried it by all of the usual tests, and the result was the same. And here I will state a very simple test for sugar, suggested to me by my friend Dr. Gaston. It is to put a drop or two of suspected urine on a piece of tin and apply heat; if there is sugar in the specimen a peculiar tawny color appears. It is easy to see the difference by subjecting healthy urine to the same test. I now watched him for several days, and notwithstanding he seemed to be improving, he was passing off immense quantities of urine, at one time amounting to two and a-half gallons per day.

About the 1st of March, as he seemed to be entirely free from febrile excitement, his tongue clean and moist, appetite good and thirst not troublesome, I put him upon cod-liver oil, iodide of iron pills, with wine, milk, eggs, lettuce, fish, meats, etc., as diet, forbidding, as much as possible, all starchy or saccharine substances. From this time up to the 14th of April, he seemed to improve, and the first two weeks in April was able to take daily rides; could run up and down stairs and was quite cheerful. His urine still contained sugar, but had diminished in quantity from two and a-half gallons to one gallon, and sometimes to half a gallon in twenty-four hours. He would always inform me that he felt worse after indulging upon saccharine or starchy articles of diet, which he would do occasionally in spite of directions. He also said that he could taste sugar in the saliva for some time after indulging in forbidden articles of diet, and that the quantity of urine was also increased.

Digitized by Google

April 13th.—He sent for me and asked my consent for his going into the country, fourteen miles, said that he felt able to go, and that it did not fatigue him to ride. Before I left, he called my attention to a slight swelling and stiffness about the angle of the jaw. Some three weeks previous he had broken off a tooth, which at the time gave him no pain, but he now thought that the trouble about the jaw came from the root of this broken tooth. I was of the same opinion, and not apprehending any serious trouble, I gave my consent for him to go to the country, merely prescribing an ointment of iodide cadmium for his jaw. On the 14th, he returned to the city, and, I found him with high fever, pulse one hundred and twenty per minute, face very much swollen and painful, externally, and a large gum boil internally just opposite (or nearly to) to the broken tooth. I lanced the boil, which bled freely and discharged a considerable quantity of pus that night, after which there was no more trouble from it. I prescribed bromide potass. in ten grain doses every two hours, and if pain continued, ordered one-fourth grain morphine at night. The urine is still charged with sugar, but in amount is not more than three quarts in twenty-four hours.

April 15th.—About the same; still complains of great pain in jaw. Ordered flax-seed poultices to face, in addition to a chloroform embrocation ordered yesterday. Continue potass. and morphine at night, if restless.

April 17th—Very dull and stupid all day; suspended the bromide potass. and ordered that he should have no morphine under any circumstances. Prescribed iodide potass., plenty of nourishment, and wine. Dr. Gaston saw him with me to-day, agreed to continue same treatment, and at the suggestion of Dr. G., I commenced the iodide of iron pills.

April 18th.—Dr. J. M. Williams saw him with me to-day. I opened the abscess externally, near the angle of the jaw; pus of a healthy appearance was discharged pretty freely. From the 19th to the 22d, when he died, his symptoms did not vary much. Drs. Gaston and Williams saw him with me several times, and Dr. Holt on the last day. We were all satisfied that death would soon take place. The abscess continued to discharge freely to the last. He remained stupid or rather sleepy, but was always easily aroused and was perfectly sensible when awake. The day he died, he seemed apprehensive of some great calamity, and wished to get out of bed, said that he wished to get away, that he was afraid to stay in bed. But when informed that he could not live long, he became calm, and seemed quite resigned, going off as quietly as if taking a gentle slumber.

Digitized by Google

The above notes are quite imperfect, as I did not expect to report the case at the time. The substance which I show you for the second time, is the product from the evaporation of four ounces of urine, ten days or two weeks previous to death. It weighs two drachms, and would be equal to one pound of sugar in the twenty-four hours, provided two gallons of urine were excreted. I have no doubt but that the quantity of sugar was much greater at the commencement of the malady. This is no doubt the true hepatic sugar or glucose. It has not crystallized, owing probably to imperfect evaporation, notwithstanding the constant supervision of Mr. Metcalf, to whom I am indebted for many favors in making correct chemical analysis for me.

Diabetes has received a great deal of attention from the best minds of the profession for the last two centuries. But we are not to infer by this elaborate discussion, that the etiology, pathology and treatment of the disease, has been satisfactorily settled. For, in fact, as Dr. Chambers remarks, in his lectures upon diabetes, "you will find that talk is always in an inverse quantity to practical knowledge." Diabetes was observed by the ancient physicians, but they described any unusual flow of urine as diabetes, and it was not until 1684, that Dr. Willis, of London, detected sugar in the urine of diabetics, and since his time, sugar has been considered as the distinctive feature in the disease; and latterly, nothing is considered as diabetes without this remarkable quality of the urine.

The next great question to be settled, after ascertaining that sugar in the urine constituted the true diabetes, was to determine from whence it came; and here we again find scientific men wandering amid all kinds of dark and tortuous theories, one locating the disease in the kidneys, another in the lungs, another in the stomach or brain, and again others locating it in the liver.

Galen (and most of the ancient authorities following him adopted his theory) "supposed a high degree of irritation to exist in the kidneys, in consequence of which they attract the matter of the urine with great vehemence from the vena cava, and an equal degree of atony and relaxation to exist in its orifices and pores, so that the same matter flows off unchanged as soon as it reaches them."

Dr. J. Mason Goode says, that even the nature of the disorder is at the present hour (that is at the time he wrote) a point of controversy; and I am forced to acknowledge that even in our day of improvement in medical science, that the controversy is still going on. Dr. Willis, immediately, upon his discovery of sugar in the urine of diabetics,

Digitized by Google

promulgated the theory : " that diabetes is rather an immediate affection of the blood than the kidneys, and thence derives its origin, for the mass of the blood becomes, so to speak, melted down, and is too copiously dissolved into a state of serosity, which is sufficiently manifest from the prodigious increase of the quantity of urine which cannot arise from any other cause than from this solution and waste of blood." Sydenham adopted the same opinion, and remarks farther, that those who have long labored under an intermittent, and have been unskilfully treated, and especially old persons, sometimes fall into diabetes. Dr. Jordan, one of the most recent authorities upon diabetes, makes the same observation, but attributes it to irritation of the sympathetic nerve which is common to both diseases.

Dr. Goode (and it is astonishing that as profound a thinker as he was could have adopted the theory) arrived at the conclusion that diabetes is a disease seated in the kidneys alone, and dependent upon irritation or inflammation of the renal organs. Passing from this and other ancient authors, we find Dr. Chambers, one of the most philosophical of modern authors, defining diabetes to be an arrest of construction. That generally used material sugar, which ought to be assimilated as food, and made available to the growth of the body, passes into the thoroughfare of the circulation and out again unaltered, and is ejected in the urine. And here I refer not only to the sugar which is taken as such into the mouth, but also to that which is formed out of starch by the action of the saliva; so that in one thoroughly diabetic, the whole of the saccharine and amylaceous matters in the dietary are utterly wasted. Trying to feed him upon them would be just the same as feeding him upon nothing at all. Dr. Bennett of Edinburgh, another one of the great lights in the profession, endorses the theory of M. Bernard, which is, that a certain amount of it (that is, sugar) may, as a result of absorption from the alimentary canal, find its way into the blood. But he has demonstrated that in dogs fed entirely upon animal food, sugar may exist in the liver and in the blood of the hepatic veins, while it is absent in the portal vein. Moreover, he has demonstrated that sugar is a normal secretion of the liver in all animals, from man down so low as the molluscæ; and that, moreover, it is secreted by the liver of the fœtus. He has proved experimentally that this secreting function is increased and diabetes produced by irritating the eighth pair of nerves, at their origin in the fourth ventricle; while, on the other hand, destruction of these nerves destroys its formation. M. Bernard has also ascertained that although section of the pneumogastric nerves destroys the formation of

Digitized by Google

sugar in the liver, it is restored by artificially irritating their central cut extremities, and that diabetes is produced exactly in the same manner as by irritating their origin in the brain. He was therefore led to conclude that the nervous action necessary for the secretion of sugar does not originate in the brain, to be transmitted directly along the pneumogastric, but indirectly and by reflex action, the vagi being incident nerves, the medulla oblongata the centre, and the solar ganglion the excident channel. Following out this theory, he found that when the respiratory function is violently stimulated, sugar appears in the urine, and that whenever ether or chloroform is given a temporary diabetes is produced. He further supposes that in the same way the lungs thus act, by reflex nervous influence upon the liver, so increased action of the liver acts upon the kidneys; consequently, that the sugar produced in excess in one organ is excreted by the other. Continuing his researches, M. Bernard arrived at the conclusion that the liver does not secrete sugar directly, but rather a substance which presents all the characteristics, chemical and physical, of hydratid starch, and which is transformed into sugar by the aid of a ferment. He supposes this ferment exists in the blood, so that the starchy substance formed by the vital action of the liver undergoes a chemical transformation into sugar when it comes into contact with this fluid. The sugar thus formed is decomposed by oxygen on arriving in the lungs, and disappears. It then follows that the appearance of sugar in the circulation generally and its occurrence in the urine, is probably dependent not only upon excess of hepatic action but also upon diminution of pulmonary action. In prosecuting our inquiry further into the etiology of diabetes, it will be proper here—as sugar is the great and important feature in diabetes—to inquire something in regard to its digestion and use in the animal economy. It is one of the carbohydrates, and at one time, in connection with the fats, was thought to be burned up in the lungs for the production of heat. Sugar and starch—from which substance sugar is rapidly produced in the economy—are not digested in the stomach at all, but pass rapidly out of the stomach into the small intestines, where their digestion and assimilation commence. The starchy substances taken as food, on coming in contact with the mixed intestinal secretions, are converted into glucose or sugar, while the greater part of the sugar itself is absorbed unaltered. A small quantity is always converted into acids, lactic principally. It is absorbed by the intestinal capillaries, and enters the blood, you might say, almost directly. Sugar, then, seems to be one of the normal constituents of the

Digitized by Google

blood and is essential to health, and is produced not only from external sources, but also from an internal or vital force or secretion, and produces no bad consequences, unless more of it gets into the blood than is necessary for the healthy working of the system. In fact, unless more than 0·4 per cent. gets into the blood, we do not find it in the urine or secretions generally; but when more than this quantity gets into the blood bad effects are produced, and the kidneys are brought into play for its expulsion from the economy. There is no doubt, according to the most reliable experiments, that not only is assimilation deficient in diabetes, but also that much more sugar is produced in the system than could be accounted for from the food taken. You may put an animal for days upon animal food entirely and still find an abundance of sugar in the liver; in fact, the liver seems to be the internal manufactory for sugar.

Dr. Dalton thinks that the formation of sugar in the liver is composed of two processes, viz: first, the formation in the hepatic tissue of a glycogenic matter having some resemblance to dextrine, and secondly, the conversion of this glycogenic matter into sugar by a process of catalysis or transformation, and that the whole process is completed in the liver instead of the circulation, as M. Bernard supposes. Now, if we could arrive at the cause of the defective assimilation of sugar, it seems to me we might begin to learn something in regard to diabetes; but I am sorry to say that there seems to be an utter failure among the learned to account for this; for while one thinks it is due to deficient alkalinity in the system, another supposes it due to defective respiration, while others locate it in the nerve centres. But for fear of wearying you, I will pass on to another part of the subject.

*Dr. Jordan, one of the most recent writers upon diabetes, described it as an apyretic disease, always characterized by glucose in the urine, almost always by impotence, increase of the urinary secretion, appetite and thirst, and often by suppression of transpiration, wakefulness and emaciation. Emaciation is generally one of the first symptoms, but is frequently not perceptible until towards the close. The skin is usually pallid, but Dr. Jordan has seen it bronzed; it is generally dry, and is the frequent seat of eruptions of various kinds. Anthrax is one of the most frequently fatal. It was first noticed as being a frequent occurrence in diabetes, by Cheselden, in 1768. Some writers consider it as one of the diagnostic symptoms. As a rule, Dr. Jordan says: they

* I quote from a Review of his Studies upon Diabetes, in the October No., American Med. Journal, for 1866.

Digitized by Google

usually appear upon the back of the neck or trunk; they suppurate, and the pus is liquid and chocolate-colored, exhaling the odor of fermented honey. Gangrene is also another frequent complication. Locomotion is usually slowly performed, and patients frequently complain of great weakness, even when appearing healthy. Neuralgias are frequent. Insomnia is also a frequent and distressing symptom. The case reported above did not suffer in this way. The appetite is usually strong and the thirst excessive. Dr. Jordan says that the mouth exhales a peculiar odor, similar to decline, also that the gums are spongy, and bleed easily. Toothache is a frequent symptom, and the teeth sometimes fall out. In the case reported above, one tooth was broken off, without giving any pain at the time. Sore throat is common. Dyspepsia is frequent at the commencement of the malady. Diabetics are generally constipated, and the deficiency in the quality and quantity of the bile is supposed to account for this symptom. The urine is of a pale straw color, and is passed off frequently and in large quantities, one Italian physician reporting two hundred pints in twenty-four hours. Forty pints have been frequently obtained, and from fourteen to twenty are very common. The patient, whose case is reported above, passed off, at one stage of the disease, twenty pints in twenty-four hours. The specific gravity of diabetic urine, will average 1040. In ten pints of urine, the quantity of solid material excreted in twenty-four hours, would amount to from one pound, to one and a quarter pounds, in twenty-four hours; the sugar varies from a half pound to one and three-fourth pounds daily. Albumen is found in the urine of some diabetics; some think it an alarming symptom, while others regard it as favorable. Claude Bernard regards it as a favorable symptom. Dr. Gaston thought he discovered albumen in the urine of this patient in one specimen examined a few days previous to death. The sugar in the urine of diabetics was at one time considered to be grape sugar. M. Bernard announced that diabetic sugar was the same in composition as liver sugar, and was decomposed in the vessels seven or eight times sooner than grape sugar. According to experiments made by Dr. Jordan, the quantity of sugar varies with the time of examination after eating. The largest quantity was found three and a half hours after eating, and least, fourteen hours. In cases of debility, in which scarlatina, measles, small-pox, diarrhœa, anthrax, pneumonia, and acute intestinal disease occurred, sugar was diminished and even disappeared in the urine. Dr. Jordan says, that diabetics are always impotent; this symptom he refers to the medulla, as general

Digitized by Google

debility would not account for it. Amenorrhœa is a freqent symptom in diabetic women. The general diabetes is developed slowly, but it is sometimes acute; it sometimes comes on after falls or other injuries to the back of the head or nuchæ. The case reported above might be considered acute, and I believe acute cases are always quickly fatal if not dependent upon some traumatic cause. Dr. Jordan describes diabetes as existing under four types, viz., alternate, in which the complaint gives place to another, as gout; the periodic, in which the disease occurs after intervals of perfect health; the intermittent, in which the affection returns at determined periods after a respite, and the continued, which is the most common. Diabetes is almost always of long duration, unless complicated with other diseases. Sometimes it terminates in cure, but very rarely; it frequently terminates in phthisis, pneumonia, apoplexy, etc.

Diabetes is not a common disease in this locality. It seems to be more common in Great Britain. According to Dr. Jordan, it occurs more frequently after thirty years of age, and is more common in robust individuals. The causes are reported as various. Excessive indulgence in cider, beer, liquors of all kinds, tea, etc., excessive venery, etc. The case reported above referred the commencement of his disease to the excessive indulgence in lager beer. Anything which has a tendency to lower the nervous and vital functions, or to disturb the digestion, would be considered as causes, or rather as exciting causes, in persons who are predisposed to the disease, for it seems to me that there must be some peculiarity in the constitution of some persons favorable to the development of this malady. Blows upon the nuchæ or back of the head are frequent causes of diabetes. The pathological lesions are various. Sugar has been detected in the blood and lymph. The bile is limpid and of a reddish hue, and contains sugar. Congestion of the brain is frequent. Dr. Jordan and others have observed lesions at the base of the fourth ventricle. The lungs are frequently perfectly healthy, but sometimes are tubercular. The stomach and intestines sometimes are found very much dilated, in other cases presenting an unnatural appearance. Lesions of the liver are among the most frequent and constant pathological conditions; congestion and hypertrophy are frequent; the color is dark and it is of increased consistence. Sugar is usually abundant, unless patient dies slowly, or from some febrile affection, in which case sugar frequently disappears. The kidneys are generally congested from overwork. The two lesions (according to Dr. Jordan and other observers) which seem appropriate to the disease are those of

Digitized by Google

the liver and nervous system. The prognosis in diabetes is unfavorable as to cure. Patients are frequently relieved for a time, but I doubt of their permanent cure. The treatment is various, and runs from one extreme to the other. By most physicians diet is considered the most important part of the treatment. And while Chambers says that feculents and sugar are worse than useless, we find Bennet, of Edinburgh, feeding his patients upon sugar, and arriving at the conclusion—1st, That we are still ignorant of how to cure diabetes. 2d, That the advantages to be derived from a purely animal or non-saccharine diet are overestimated. 3d, That the giving of sugar or employing a mixed diet produces no injury. 4th, That a non saccharine diet diminishes the symptoms, controlling the hunger and thirst, and diminishes the amount of urine, but does not cure the disease. 5th, On this account it should be employed as a palliative, when it can be employed without injury to the health, and especially when frequent calls to micturition disturb the sleep at night.

Notwithstanding the high authority of Dr. Bennet, I think most physicians agree with Dr. Chambers, and the most philosophical treatment seems to be to improve the patient's general condition by all the means in our power, not only by medicines but by diet. We should endeavor to improve the digestion and to promote the action of the skin and bowels, and it seems to me, to tax the digestive organ with as little starch and sugar as possible; for it is evident that not only the sugar which is taken into the system in the various saccharine and starchy articles of food, but also the sugar formed in the liver, passes out through the kidneys. If the digestion be good, I would give cod-liver oil and iron, or what is better, iodide of iron, good light wines, and as strictly as possible an animal diet, and, if convenient, the bran biscuits now prepared in London, upon a large scale, especially for diabetics. I would also give alkalies, and recently the citrate of soda has been suggested as being especially applicable. It is said to aid the digestion of sugar, and this seems to be the great desideratum. For when we find a substance, or any means for promoting the digestion and assimilation of sugar, we may be able to cure this very singular disease.

Digitized by Google

CORRESPONDENCE.

CINCINNATI, May 11, 1857.

MESSRS. EDITORS—In accordance with my promise, partially given you before coming here, I will endeavor to give you some account of the late meeting of the American Medical Association, which concluded its sittings on yesterday evening.

On Tuesday morning, the 7th instant, the large reception room of Hopkins' Hall was crowded with medical men, who filed two abreast to the Secretary's table, presenting credentials to the rapid scrutiny of the committee, and undergoing registration, each one of whom on receiving his certificate of membership, was ushered before the Committee of Arrangements and Reception, and presented with cards of invitation to the large number of places of entertainment, excursions, and hospitalities provided through the exertions and exceeding liberality of the committeemen resident in the city, for the benefit of the delegates.

A large number present were still unregistered when the hour for assembling arrived. The assembly being called to order, and a prayer delivered by one of the clergymen of the city, the session of the Association was commenced by the reading of an address by Dr. Askew of Delaware, the President elect of last year. He sketched a history of the Association from its foundation, dwelling at length upon its labors and the value of its Transactions, which, he very truly remarked, ought to be found in the library of every physician in the land, and most certainly on the shelves of each of the three thousand registered members of the Association, whereas never more than an edition of eleven hundred copies had been distributed, and of late years scarcely five hundred. He spoke of Empiricism, and very truthfully ascribed as a potent cause of its prevalence—the custom with our profession in past days of generally acting upon the supposition that to the public, medical matters should be forbidden knowledge, and since we had always frowned upon any dissemination of it among the people, they were left a prey to the specious representation of charlatanry. The introduction of physiology, botany and zoölogy, as a part of the system of modern public education, he thought, tended largely to diminish the dissemination of quackery. On specialties he spoke at some length, and thought

Digitized by Google

that from the vastness of the field of modern medicine, that with certain restrictions and provisos they should be favored. He concluded his address by adverting to what he had observed North, when the "Maine Liquor Law" prevailed, to be an evil of great and fearfully growing magnitude—the use of opium as a stimulant, by persons who condemned the use of intoxicating drinks. He thought it could be overcome only by bringing the influence of the profession to bear against it, which he believed ought to be used to effect legislative enactments, restricting the pharmaceutist's sale of the article, to filling the prescriptions of the physician.

As next in order, the reports of Committees were called for in printed order:

1. On Quarantine, Dr. Wilson Jewell, Pennsylvania, Chairman. Absent, dropped.

2. On Ligature of Subclavian Artery, Dr. Willard Parker, Chairman, New York. Postponed.

3. On Progress of Medical Science, Dr. J. C. Smith, New York, Chairman. Not ready, discharged.

4. On the Comparative Value of Life in City and Country, Dr. Edward Jarvis, Massachusetts, Chairman. Postponed.

5. Drainage and Sewerage of Cities, etc., Dr. Wilson Jewell, Pennsylvania, Chairman. Absent, dropped.

6. On the Use of Plaster of Paris in Surgery, Dr. James L. Little, New York, Chairman. Report ready and referred to Section on Surgery.

7. Prize Essays, Dr. F. Donaldson, Maryland, Chairman. Passed.

8. On Medical Education, Dr. S. D. Gross, Pennsylvania, Chairman. Special order for Wednesday morning, ten o'clock.

9. On Medical Literature, Dr. A C. Post, New York, Chairman. Passed.

10. On Instruction in Medical Colleges, Dr. S. N. Davis, Illinois. Special Order for Wednesday morning, ten o'clock.

11. On rank of Medical Men in the Army, Dr. D. H. Storer, Massachusetts, Chairman. Report ready and read by Dr. N. Pinckney, Surgeon U. S. Navy, who read with much effect an exceedingly able and forcible report of the present rank and relative social position of the medical officers of the U. S. Navy, descanting dignifiedly, though most bitterly, upon their present degraded condition, in comparison with the amount of scientific knowledge demanded of them, and the hardships and dangers incident to their duties. It was concluded by a

Digitized by Google

resolution passed unanimously by the house: That a Special Committee of five be appointed by the President of the Association to present the subject before the President of the United States and the Secretary of the Navy, and urge the adoption of the changes proposed. Committee—Dr. N. S. Davis, Illinois; J. M. Tower, District of Columbia; S. D. Gross, of Pennsylvania; J. J. Cockerill, Maryland, and H. F. Askew, Delaware.

13. On Insanity, Dr. Isaac Ray, Rhode Island, Chairman, not present. On a motion to drop the subject, Dr. Storer, Jr., of Massachusetts, arose and declared himself in favor of its continuance, with the appointment of a new committee of "live men" to serve upon it, remarking at some length upon the exclusiveness of Superintendents of insane asylums regarding the question of insanity, concerning which they declared the profession at large knew nothing, and were not strictly interested, and said that he had received a letter from Dr. Ray to that effect, who furthermore declared his surprise at his appointment since he was not a member of the Association, and who consequently expressed no intention of preparing a report. Temporarily passed.

14. On Medical Necrology, Dr. C. C. Cox, Maryland, Chairman. Deferred till Wednesday.

15. On the Causes of Epidemics, Dr. Thos. Antisell, District of Columbia, Chairman. Absent.

16. On Compulsory Vaccination, Dr. A. N. Bell, New York, Chairman. Continued another year.

17. On Leakage of Gas Pipes, Dr. J. C. Draper, of New York, Chairman. The question now undergoing investigation in Europe, Dr. D. signified through the Secretary, a desire to have it continued. Granted.

18. On Alcohol and its Relations to Man, Dr. J. R. Dunbar, Maryland. Ready, referred to section on Hygiene.

19. On the various Surgical Operations for the Relief of Defective Vision, Dr. M. A Pallen, Missouri, Chairman. Not having had time to prepare a report, asked that the Committee be discharged. Granted.

20. On Local Anæsthesia, Dr. E. Krackowizer, New York, Chairman. Dropped.

21. On the Influence upon Vision, of the Abnormal conditions of the Muscular Apparatus of the Eye, Dr. D. H. Noyes, New York, Chairman. Dropped.

22. On the Comparative Merits of the different Operations for the

Digitized by Google

Extraction of Vesical Calculi, Dr. B. J. Raphael, New York, Chairman. Dropped.

23. On the Therapeutics of Inhalation, Dr. J. Solis Cohen, Pennsylvania, Chairman. Referred to Section.

24. On the Deleterious articles used in Dentistry, Dr. Augustus Mason, Massachusetts, Chairman. Continued another year.

25. On Medical Ethics, Dr. W. Hooker, Connecticut, Chairman. Absent.

26. On the Climatology and Epidemics of the several States, only one report, Massachusetts, Dr. Alfred C. Garratt. Referred to Section on Epidemics.

After this, quite a large number of voluntary papers were presented, the titles of which were announced by the Secretary, and by vote of the Association referred to different sections. Adjourned till Wednesday, 9, A. M.

At night the Association met to enjoy a banquet at Melodeon Hall, given by the Profession of the City. In sumptuousness, we suppose it has never been excelled by any previous one of the many annual entertainments of the Association.

Wednesday, 8th, 9, A. M., the Association resumed its Session.

The Secretary read a communication from Dr. Alden March, of Albany, New York, donating to the Association photographs of all the Presidents of the Association, and announcing his pleasure to add to the Association in future. Accepted with the thanks of the Association.

Dr. C. C. Cox, one of last year's Delegates to Foreign Medical Associations, gave an interesting report of the proceedings of the British Medical Association, which met at Chester, England, August, 1866. Referred to Committee on Publication.

The President appointed for the present year, as representatives to Foreign Associations, Dr. B. Fordyce Baker, of New York, Dr. John E. Tyler, of Massachusetts, Dr. Thos. O. Brunsmeade, New York, Dr. Paul F. Eve, Tennessee, and subsequently several others.

Dr. H. R. Storer arose and made an explanation regarding his remarks on yesterday, concerning Dr. Ray's report, and the Superintendents of insane asylums. He said that his remarks had been misunderstood, and disclaimed any intention of saying anything personally offensive. He said that he had learned that Dr. Walker, a Superintendent of an insane asylum, was present with Dr. Ray's report in his pocket, that it was by a railroad accident he was unavoidably prevented from being present on yesterday, and he now moved that the report be read.

Digitized by Google

Dr. Hibberd opposed a departure from rule, because of the liability to consumption of valuable time.

Dr. Walker arose, and after referring to his delay by railroad accident, expressed surprise and grief at the remarks of Dr. Storer on yesterday, as related to him. The Superintendents of Asylums would in future hold aloof from the Association in their capacity as such, though as physicians simply, they would ever be ready to contribute their part in the Association's work, if received courteously.

Dr. Gross hoped the report would not be referred, but treated with the courtesy of an open reading.

Dr. Storer again arose, and disclaimed any intention of offense, though the disclaimer seemed unsatisfactory to Dr. W.

By vote of the Association the report was then read.

The Report on Medical Education being the order for ten o'clock, Dr. Gross walked upon the platform, and read the most admirable report upon the subject it has ever been our good fortune to listen to. In it was embraced a scheme for future adoption by Medical Schools, which if we may judge by the comments we accidentally heard from members from various sections, was almost universally approved. By unanimous vote of the Association, the report was ordered to be printed.

Dr. Alfred Stillé, Chairman of the Medical Teachers' Convention, presented the subjoined report, being in brief, nearly identical with the recommendations of Dr. Gross' report, and asked the co-operation of the Association in carrying out the measures recommended.

To the American Medical Association:

The convention of teachers of the medical colleges, convened by your committee in the city of Cincinnati, May 3d, 1867, adopted the following resolutions:

Resolved, That a copy of the resolutions adopted by this convention, certified to by its officers, be transmitted to the American Medical Association, at its next session.

In obedience, therefore, to this action, we, the President and Secretary of said Convention, beg leave herewith to transmit the following:

Resolved, 1st, That every student applying for matriculation in a medical college shall be required to show, either by satisfactory certificate or by direct examination by a committee of the faculty, that he possesses a thorough knowledge of the common English branches of education, including the first series of mathematics, elements of natural sciences, and a sufficient knowledge of Latin and Greek to understand

Digitized by Google

the technical terms of the profession; and that the certificate presented on the result of the examination thus required, be regularly filed as a part of the records of each medical college.

2d, That every medical student be required to study four full years, including three regular annual courses of medical college instruction, before being admitted to an examination for the degree of Doctor of Medicine.

3d, That the minimum duration of a regular annual lecture term, or course of medical college instruction, shall be six calendar months.

4th, That every medical college shall embrace in its curriculum the following branches, to be taught by not less than nine professors, viz: Descriptive anatomy, including dissections; inorganic chemistry, materia medica, organic chemistry and toxicology; general pathology, therapeutics, pathological anatomy and public hygiene; surgical anatomy and operations of surgery; medical jurisprudence and medical ethics; practice of medicine and practice of surgery; obstetrics and diseases of women and children; clinical medicine and clinical surgery; and that these several branches shall be divided into three groups or series, corresponding with the three courses of medical college instruction required.

The first, or freshman series, shall embrace descriptive anatomy and practical dissections; physiology and histology; inorganic chemistry, materia medica and therapeutics. To these the attention of the student shall be mainly restricted during the first course of medical college instruction, and in these he shall submit to a thorough examination, by the proper members of the Faculty, at its close, and receive a certificate indicating the degree of his progress.

The second, or junior series, shall embrace organic chemistry and toxicology, general pathology, morbid anatomy and public hygiene; surgical anatomy and operations of surgery; medical jurisprudence and medical ethics. To these the attention of the medical student shall be directed during his second course of medical college instruction, and in them he shall be examined at the close of his second course, in the same manner as after the first.

The third, or senior series, shall embrace practical medicine, practical surgery, obstetrics, and diseases peculiar to women and children, with clinical medicine and clinical surgery in the hospital. These shall occupy the attention of the student during his third course of college instruction, and at its close he shall be eligible for a general examination for the degree of Doctor of Medicine.

Digitized by Google

The instruction in the three series is to be given simultaneously, and to continue throughout the whole of each annual college term; each student attending the lectures on such branches as belong to his period of progress in study, in the same manner as the sophomore, junior and senior classes. Each pursue their respective studies simultaneously throughout the collegiate year, in all our literary colleges.

5th, That every medical college should immediately adopt some effectual method of ascertaining the actual attendance of students upon its lectures and other exercises, and at the close of each session, of the attendance of the student, a certificate, specifying the time and the courses of instruction actually attended, should be given, and such certificate only should be received by other colleges as evidence of such attendance.

6th, That a committee of five be appointed by the President, whose duty it shall be to present the several propositions adopted by the Convention to the trustees and faculties of all the medical colleges in this country, and solicit their definite action thereon, with a view of the early and simultaneous practical adoption of the same throughout the whole country; and that the same committee be authorized to call another convention, whenever deemed advisable.

Respectfully forwarded,

A. STILLÉ, M. D., President.

GUSTAVE C. E. WEBER, M. D., Secretary.

Dr. Davis, of Illinois, chairman of committee appointed by the Association to call the Convention of Teachers, detailed the steps he had taken to effect his work.

Dr. Sayre, of New York, offered the following resolution:

Resolved, That this Association, most heartily approving the whole action of the Convention of Medical Colleges, urges its practical adoption on all the medical colleges in the country.

Dr. Post, of New York, wished to offer some change in the course of instruction proposed.

Dr. Davis, of Illinois, arose and said, that although the college to which Dr. Post was attached had been invited, it had not thought fit to be represented at the meeting. At the meeting of that Convention he could offer any amendment he chose, but that this Association had no power to act in the matter.

Other medical professors then arose and said, that though not present at the Convention, they there declared their hearty approval of the

Digitized by Google

changes recommended. The resolution was then adopted without a dissentient voice, though we heard of at least one cut-and-dried opposition speech, which had come up aboard one of the Louisville boats, which the carrier had expressly intended ventilating in the hall of the Association.

Dr. F. Donaldson, of Maryland, chairman of the Committee on Prize Essays, reported the reception of eight essays, and announced that after careful reading, the committee had thought proper to confer the prize of $100 each upon the authors of two essays—1st, "An Essay on the Causes of Intermittent and Remittent Fever," bearing the motto, "Fortis est Veritas." 2d, "On the Treatment of Certain Abnormities of the Uterus." Motto, "Empiricism in medicine and surgery is fast giving way to the rationalism of true diagnosis." On opening, in the presence of the Association, the accompanying envelopes bearing each of the above mottoes, the authors were found to be respectively, Dr. J. D. Black, of Newark, O., and Dr. Montrose A. Pallen, of St. Louis, Mo.

A communication was read from one of the local societies of Chicago, announcing the expulsion therefrom of two members of the Association last year, for violation of the code of ethics.

A resolution, as an amendment to the Constitution, to lay over until next year, was offered, proposing that no person who is not a supporter of a local medical society, when such a one exists, shall be eligible to membership in the American Medical Association.

Dr. Post, of New York, read a report on medical literature, which was referred to the Committee on Publication. Adjourned to meet at 9 o'clock, A. M., Thursday.

At 3 o'clock in the afternoon, the members of the Association, by invitation of Hon. George Pendleton, were driven to his suburban residence, some five miles from the city, (one hundred and eighty odd hacks being furnished them for the purpose,) to enjoy the princely hospitalities of the occasion.

Thursday, May 9th.—Dr. Atlee, of Pennsylvania, offered a resolution to the effect that the American Medical Association recognize well educated female physicians, by the same laws that govern its own members. After some comments, Dr. N. S. Davis, of Illinois, moved that it be referred to the Committee on Ethics. Carried by an overwhelming majority.

The committee on nomination of officers and place of meeting for next year, reported as follows:

Place of Meeting—New Orleans.

Digitized by Google

President—Saml. D. Gross, Pennsylvania.

Vice Presidents—Alf. C. Post, New York; Jno. H. Atlee, Pennsylvania; D. W. Yandell, Kentucky; H. R. Storer, Massachusetts.

Permanent Secretary—Wm. B. Atkinson, Philadelphia, Pa.

Assistant Secretary—T. G. Richardson, New Orleans, La.

Treasurer—Casper Wistar, Philadelphia, Pa.

Committee of Arrangements—Dr. Warren Stone, D. Warren Brickell, S. Choppin, John D. Foster, S. M. Bemiss, C. Beard, of New Orleans, La.

Committee on Prize Essays—Drs. Bennett Dowler, S. A. Smith, D. W. Brickell, S. M. Bemiss, J. Scott, of New Orleans, La.

Committee on Publications—Drs. F. G. Smith, Caspar Wistar, W. B. Atkinson, W. Mayberry, of Pennsylvania; H. F. Askew, Delaware; H. R. Storer, Massachusetts; W. W. Dawson, Ohio.

The report was accepted, and Dr. Davis of Illinois called up the resolution relative to the next place of meeting. He was opposed to going to New Orleans, not from any fear that the Association would not be warmly received and cordially welcomed, but because the great metropolis was too much impoverished and desolated to bear the burdens incidental to their visit. There was no point to which he was more desirous of going than the Crescent City. He was drawn there by social ties, and he felt sure that the Medical Fraternity would be treated with the utmost consideration and kindness. He knew the warm-hearted people would vie with Cincinnati in the splendor of their hospitality, yet he knew they could not at this time bear this tax upon their generosity. They were restrained their entire liberty, and until that was removed, which he hoped would be at no distant day, they could not receive such a large influx of visitors. While we are feasting at home here, we are neglecting the calls of humanity. Each breath of southern air that's borne to us, being freighted with the wails of the widow and the cries of the orphan, whom the desolating blight of civil war made such. They were crying for a morsel of bread to save them from the pangs of starvation, while we lolled in all the luxuries of entertainment almost royal in their magnificence. Wait another year until the people of the South would have time to recover somewhat from their present misfortunes, and he would be in favor of New Orleans as the place of meeting. He felt grateful to Cincinnati for her regal welcome to the Association, but was opposed to the present style of feting, until the regular business for which the Association assembled was transacted. In conclusion he offered the following resolution:

Resolved, That when we adjourn, it be to meet in the City of Wash-

Digitized by Google

ington, D. C., in May of each alternate year, until changed by a vote of the Association, and that the Committee of Arrangements be notified not to accept any entertainments whatever, thus dedicating each alternate year exclusively to business.

Dr. Yandell, of Kentucky, then arose, and made a speech in favor of New Orleans. He said that he felt he violated no confidence when he said that when in the Committee of Nominations, Dr. Horatio Storer, of Massachusetts proposed New Orleans, and Dr. Alonzo Palmer, of Michigan, seconded the nomination, he could not restrain his emotions from bringing tears of joy to his eyes. He felt that he had a right to speak for the Profession in New Orleans. That his excellent father and himself had taught many of them as students of medicine; and as Medical Director in the Southern army, he had become personally acquainted with most of them; indeed, that he believed he could say that there was not a medical man in the Mississippi Valley he did not know. He said that though the whole South was poor, he believed they would not be the less welcome, that there was not a man in it but waited to have the hands of the Association extended to give a welcome. The profession of New Orleans are not here to-day, because they are not able to come, if we go there it will be a good place for little eating and drinking. If the Association is to be put on low diet, New Orleans is a better place than Washington City. Though it cannot give us such entertainments as Cincinnati, the Profession there can give us what is even better, the warm grasp of hands, the memory of which we will carry with us to our homes.

Though the remarks were applauded, Dr. Davis's proposition to go to Washington the coming year, with New Orleans anticipated as the place of meeting for the year following was carried, with the emendations that instead of the Committee of Arrangements being forbidden to make any arrangements for entertainments whatever, as proposed, that they should make none which might interfere with the regular work of the Association.

In accordance with the change of place the Committee on Arrangements and Prize Essays were changed.

Committee on Arrangements.—Drs. Grafton Tyler, Wm. P. Johnson, F. Howard, Wm. Murbuny, Lewis Mackall, T. F. Mowry, and J. M. Tower, Washington, D. C.

Prize Essays.—Drs. Chas. Woodward, W. W. Dawson, S. B. Stevens, Robert Bartholow, P. S. Connor.

Assistant Secretary.—J. W. H. Lovejoy, Washington, D. C.

Digitized by Google

The hour of twelve arriving, the Association adjourned to enjoy a steamboat excursion on the river, arranged by the corporation of the city, aboard the magnificent steamer America. The steamer, with a band aboard, steamed some twenty-five miles down the river and back, the guests, during their return, partaking of a splendid collation.

At night the members were again assembled, to enjoy the magnificent hospitalities extended by Mayor Wilstach, Mr. Larz Anderson and Dr. Mendenholl.

Friday, 12th.—On motion of Dr. Atkinson, the President was directed to appoint a committee to memorialize Congress relative to the cultivation in this country of the cinchona tree.

The Secretary presented a paper on the Causes and Management of Cholera, by Dr. E. Harris, New York. Referred to Committee of Publication.

A paper was also presented by Dr. Wm. Marsden, of Canada, regarding the infection and portability of cholera, with its history in Canada. Referred to the Committee on Revision.

After the appointment of certain other committees, and the passage of a vote of thanks to the gentlemen of the city by whom the Association had been so hospitably entertained, and to the Baltimore and Ohio railroad, Marietta, Little Miami, Columbus and Cleveland, Cincinnati, Hamilton and Dayton, Dayton and Michigan, Cincinnati, Indianapolis and Lafayette, Covington and Lexington, Chicago and Great Eastern railroads, for commutation of return fare to members of the Association, the body adjourned to meet next in Washington City.

Cards of invitation had been previously issued to the members to visit "Longworth's wine house," which was done by a large number during the forenoon, though the hour conflicted with the time of meeting of the Association, as, indeed, did an exhibition of the fire-engines of the city of the previous day, gotten up in the Association honor. In the evening a special train carried some 300 or more of the members to the Insane Asylum at Longview, some half dozen miles from the city, when after being shown through the grounds and buildings, the visitors were ushered into a suite of rooms, in which were tables spread with tempting viands, and the even more tempting products of the famous vine-clad hills of the neighborhood, prepared by the direction of the urbane superintendent, Dr. Langdon, where closed a series of festivities in honor of the Association not to be soon forgotten by any of the participants.

Digitized by Google

CHRONICLE OF MEDICAL SCIENCE.

DISEASES OF THE EYE AND EAR.

A new Operation for Cataract: By THOMAS WINDSOR.

THE changes in the operative treatment of cataract have been very numerous in recent years. Depression, which was at one time so largely practised, is now either entirely rejected or employed in very exceptional cases. The use of discision has become less and less frequent, and the most experienced operators now have recourse to it only in the soft cataract of infancy and childhood. On the other hand, extraction in one form or another is now universally adopted as the best means of removing all hard, or partially hard, lenses.

During the last few years the attention of surgeons has been specially directed to a consideration of the means by which the lens can be removed from the eye with the least risk. Professor von Gräfe's celebrated paper on linear extraction gave the first impulse in this direction. To von Gräfe is also due the credit of having originated some of the ideas subsequently developed by other men, and the greater merit, besides, of having given an immense stimulus to the study of this branch by his teaching and example. Schuft made an important step in 1860 by the introduction of his spoon and the use of a small incision. Mooren, Jacobson, Critchett, Bowman, Pagenstecher, and others, have since promulgated various modifications of value. For my present purpose, it will not be necessary for me to enter upon the details of these plans. I may remark, however, that two different ways of arriving at the same object may be traced in the efforts made by different surgeons to improve this important branch of practice. On the one hand, they strove to diminish the risk of suppuration, by diminishing the size of the wound, a proceeding that necessitated the use of iridectomy and of instruments to assist the passage of the lens, spoons, scoops, and hooks (Schuft, Critchett, Bowman), or by forming the wound so that its lips were afterwards in perfect contact, a modification frequently necessitating the use of some extracting instrument (von Gräfe). On the other hand, the surgeon's whole attention was directed to facilitating the passage of the lens by the use of the largest possible incision combined with iridectomy (Jacobson), thus to remove more easily and more perfectly the whole of the lens, both nucleus and cortex, and as performed by Pagenstecher, both lens and capsule I have myself repeated more or less frequently all the various modifications recently proposed, and have found that whilst almost all these variations gave in certain cases very satisfactory results and guarded against certain dangers, they often produced or promoted other accidents or secondary changes of a pernicious nature (escape of vitreous, iritis).

What are the dangers of extraction and what the means by which they may be avoided? Even during the operation itself we are exposed to risks from unsteadiness of the patient, from violent contractions of the ocular muscles, and from an inaccurate manual performance on the part of the surgeon or his assistant. All these, so far as they are due to the behavior of the patient, can be overcome by fixing the eye with

forceps, and by the administration of chloroform Immediately following the operation we have primary suppurative destruction (necrosis) of the cornea and primary iritis; the former is essentially due to the corneal incision, and the frequency of its occurrence rapidly increases as the latter includes a greater extent of the corneal circumference, though no doubt a diminished power of restoration has a considerable share in its production in the extremely old and in marastic patients. The latter (iritis) is caused by contusion of the iris, by the irritation of cortical remnants or of the retracting capsule. At a latter period come secondary suppuration in the cornea and secondary iritis or irido-choroiditis. Secondary corneal suppuration is generally a consequence of a low form of iritis. Secondary iritis is caused by the extension of inflammation from the cornea or from the capsular epithelium. We may infer, if these views are correct, that to prevent primary suppuration, we should make the wound as small as is compatible with the passage of the lens, and of a form that will interfere as little as possible with the nutrition of the cornea, and that will keep the lips of the wound in apposition. To prevent primary iritis, we should remove both the lens and the unopened capsule.

I have endeavored to fulfil these indications in the following manner:—The patient is kept throughout the operation fully under the influence of chloroform, so fully indeed that he shows no signs of reaction when the conjunctiva of the eye which is not to be operated on is seized with forceps. A small incision is then made at the corneo-sclerotic junction, the adjacent portion of iris is excised, the zonula is opened with a small hook close to the wound, the scoop is gently passed into the vitreous cavity just behind the lens, and the latter is slowly removed. The after-treatment may be much as after extractions; the eye may, however, be safely examined at a much earlier period, say 24 to 36 hours after the operation.

The scoop that I have used, and that seems to answer its purpose well, was made for me by Mr. Wood, instrument maker, Manchester. It is broad but shallow, and curves upwards at the further end.

My cases are yet too few, and most of them have been performed too recently, to allow me to attempt any complete account of the results; I can only say that I have been pleased and surprised with the rapidity of healing and the absence of any threatening symptoms.

A comparison of this operation with the others, to which I have already referred, will show that it promises all the advantages claimed for them, without their disadvantages; the only objections that can be raised are in respect to opening the hyaloid membrane and a possible loss of vitreous. As to the former, I believe the risk is extremely trifling; as to the latter, that no loss of any moment can occur, provided the patient is fully under the influence of chloroform. Its advantages appear to be, that the risk of the operation is very much lessened; that the cataract is completely removed by a single operation and no secondary operation is required; that the eye can be opened at an early period and be carefully examined without danger; that the convalescence is more rapid; that the patient may be sooner discharged with safety, and that the average vision is (probably) superior to that afforded by other methods.

It scarcely requires mention that the operator must expect some failures, especially in his earlier cases; the capsule is sometimes extremely

Digitized by Google

delicate and will give way, but such accidents are likely to become less frequent as familiarity is gained with the method; on the other hand, I see no reason why such an operation should not be employed in some cases, at least, of soft cataract.

I have purposely omitted intra-ocular hæmorrhage from my list of mishaps, because of its very rare occurrence: it would probably be still more uncommon after the proposed method than after flap-extraction, for the great and sudden relaxation of tension from loss of vitreous during the operation, and irido-choroidal congestion at a later period, which must so much promote it, would scarcely ever happen.

In conclusion, I may again repeat that the object of this operation is to prevent primary corneal suppuration and iritis by the form of the wound and the removal of the lens in its unopened capsule.—*Ophthalmic Review.*

Case of Removal of the Lachrymal Gland for Inveterate Epip-hora.

Miss Ellen E., æt. 33, has had a very troublesome watering of the left eye for the last three years, and during that period she has undergone a variety of treatment; latterly, within the last twelve months, the canaliculi were slit open and Bowman's and Weber's probes introduced from time to time, but all to no purpose.

She now says—Jan., 1867—the eye waters as much as ever, and is a source of very great annoyance to her.

There is no distension or enlargement of the lacrymal sac, no secretion of pus or muco-pus, but what the patient complains of is simply an almost constantly discharge of clear water from the eye, worse at one time than another.

On the 29th January last, chloroform was administered, and the lachrymal gland removed by Mr. Windsor. The mode of operation was that recommended by Mr. J. Z. Laurence.

Very considerable swelling and irritation followed the next few days, but had nearly all subsided in the course of a week.

Feb. 19th.—Patient states that the "eye feels as if it were full of water; but no water runs over the cheek as it did before." Slight ptosis is observed, also some conjunctival mucous secretion.

Feb. 26th.—She can now raise the lid nearly as well as ever. Eye feels quite moist; no lachrymation whatever. On exposing both eyes repeatedly to the vapor of strong liquor ammoniæ, while free lachrymation was produced in the sound eye, hardly anything of the kind was perceptible in the operated eye.—*Ophthalmic Review.*

Traumatic Rupture of the Lachrymal Sac.

A lad about 18 years of age was "larking" with a companion, who accidently struck him with the point of the middle forefinger, on the

Digitized by Google

inner corner of the right eye. The blow was not severe, and he thought nothing of it until next morning, when, on blowing his nose, the eyelids, to use his own expression, "flew up like blowing up a bladder." When I saw him, a few hours after this occurred, the eye was still closed by the distension of the lids. The air crepitated under the finger exactly as it does in a piece of healthy lung, and it could be pressed in all directions. By a little management I sent the greater part of it into the cellular tissue of the cheek and forehead; I then desired him to blow his nose, and on his doing so the lids immediately "flew up" as before.

Rupture of the lachrymal sac is not a common accident. Many surgeons of great ophthalmic experience have never seen an instance of it; yet it has so happened that this is the eighth case that has come under my care. As it might prove a source of embarrassment to a young surgeon, I may mention that the diagnosis is extremely easy. The history, crepitation of the air, and the facility with which the eyelids can be inflated by blowing the nose, render the nature of the injury obvious. No treatment is necessary. The patient should be instructed to abstain from blowing the nose for a week, by which time the little rent in the sac will have healed. The air is rapidly absorbed. Some simple lotion may be used as a *placebo*, but I do not believe that any application is really necessary.—*Ophthalmic Review.*

Inveterate Pannus treated by Inoculation: By H. Wilson, F.R.C.S.I., Assistant Surgeon to St. Mark's Ophthalmic Hospital, Dublin.

H. M., a broken-down, unhealthy looking man, æt. 27, was admitted to St. Mark's Ophthalmic Hospital on 10th June, 1866, presenting the following appearance on each side; the eyelids drooping, and their folds obliterated; the eyelashes slightly altered in their curvature; the conjunctiva of the globe and lids vascular, and of a brownish-red color, slightly stained by nitrate of silver; the inner surface of the upper lid slightly rough and granular near the upper margin of the tarsal cartilage, but presenting elsewhere a smooth surface of old cicatrices; the cornea quite opaque, and completely vascular, with several individual large dark-colored vessels running in from the conjunctiva of the globe; the junction of cornea and sclerotic scarcely definable. Vision was restricted to distinguishing between light and darkness. He states that his eyes had become affected two years previously, and that he had been under various practitioners and various treatments during the interval. I attended this man for nearly two months, employing local and constitutional treatment most assiduously but, notwithstanding all efforts, not the slightest improvement was apparent at the end of that time.

On the 2d August I introduced gonorrhœal matter into both eyes of this patient, and in a couple of days' time purulent ophthalmia was established, which I treated principally by compress-bandages. The attack was very mild, and the bandages were left off in the course of ten days. In some time subsequently I had the gratification of seeing the cornea begin to clear, and gradually the iris began to be visible on each side. Eventually the right cornea became so transparent that the

Digitized by Google

iris and pupil were clearly and plainly visible; but I found the pupil small, irregular, and adherent, and the capsule of the lens partly opaque. On the 11th October I performed on the right side a large inferior iridectomy, and applied a compress-bandage for a few days. In about a fortnight he could discern people and objects at a distance, and finally read large type, and was enabled to go about the streets alone. In November the left cornea had cleared, but not so much as the right one, and I performed a similar iridectomy on this side with beneficial results. The lids still drooping slightly, and the inferior portion of the cornea being the most transparent, I made the iridectomy downwards, as the most suitable. The man returned to the country in December, and has since remained well, and is, I believe, now earning his living.

The opportunities for observing and treating that condition generally termed granular lids and pannus are unfortunately but too abundant in Ireland, which may be designated the home of the disease. Local depletion by cupping or leeching, scarification or abscission of the granulations, the employment of sulphate of copper, nitrate of silver, and sulphate of atropia, together with great attention to the general health, will suffice as a rule to cure the disease, but both time and patience are necessary. Occasionally, however, no matter what may be done, the malady will still continue, and in such cases there will frequently be found disease of the heart, kidneys, spleen, or other internal organs. In the instance of H. M., I did not detect any such disease, nor could I assign any one definite cause for the continuance of the disease. I had hitherto hesitated to adopt what appeared to me such heroic practice as inoculation—partly from timidity, and partly from want of what I regarded as suitable cases. I had failed to produce any improvement in H. M. by ordinary treatment, so I inoculated, and the effects were so satisfactory that I have since adopted it in other instances and with the best results. I would, however, restrict inoculation to those cases where the cornea is entirely vascular, or nearly so, and I would recommend compress-bandages in the treatment of this as well as other forms of purulent ophthalmia.

I would direct attention to the adherent condition of the pupils—a condition, I am sorry to say, I not unfrequently find when the cornea has become clear and transparent. The adhesions existed prior to his admission, for I employed atropia-solution from the commencement. The iris is very liable, in this country at least, to take on inflammatory action in any diseased condition of the cornea—in pannus from granular conjunctivitis, in ulcerations and injuries of the cornea, &c.; iritic complication is well known in keratitis, aquo-capsulitis, cyclitis,—and atropine is employed; but in the above-mentioned, and much more frequently common maladies of the cornea, atropine is employed but by a few special practitioners. Now, I regard the omission of atropine in a large class of eye diseases as a very serious fault; and teachers and writers cannot impress too earnestly or too frequently on their pupils and the general practitioner the great value and necessity of belladonna, or its alkaloid atropia, in contradistinction to nitrate of silver, which latter is so indiscriminately and so injudiciously employed.—*Ophthalmic Review.*

Digitized by Google

On Aqua Chlori: By A. Von Graefe: (*Arch. für Ophth.*, x. 2, p. 191).

This means was first used at the Eye-Clinic in reference to diphtheritis and blennorrhœa as a prophylactic. The author, struck by the tolerance of it generally exhibited, made an extensive series of trials of its powers as a remedial agent. The following remarks are drawn from its use in more than 600 cases.

In *simple conjunctival catarrh* with diffuse injection and swelling of the conjunctiva, with excoriation of the intermarginal portion of the eyelid, but without any marked development of the follicles (granulation) or luxuriance of the conjunctival fold (contagious catarrh), it is inferior to the ordinary treatment (cold lotion in the beginning, solution of the nitrate of silver even before the acme). In some few cases of catarrh with ectropium, or where the eyelids are closely applied to the eyeball, nitrate of silver causes great irritation, whilst the aqua chlori acts more satisfactorily.

In *contagious catarrh*, which is characterized chiefly by the luxuriance of the upper conjunctival sac, *i. e.*, of the mucous membrane between the upper margin of the tarsus and the fold, and which is related to follicular catarrh, (acute granulation). In comparison with ordinary catarrh, these forms have a far longer period of development, during which they do not tolerate irritant applications. Aqua chlori of the pharmacopœal strength, dropped into the eye once or twice daily, is tolerated at an earlier period than is the caustic, whilst it has a decided effect in reducing the conjunctival swelling and in preventing the development of the follicles. At a later stage, when the tissue becomes much relaxed, nitrate of silver is again required. In certain cases it is better to abstain from the use of even aqua chlori; for example, when the conjunctiva is very tense, when the sub-conjunctival congestion is excessive, when the pain is disproportionate, when the mydriasis from atropine is of short duration, or when the cornea is threatened. When the height of the attack has passed, the aqua chlori again becomes admissible in respect to the conjunctival swelling; yet, as a general rule in these more violent cases, local cauterization with the lapis during the period of relaxation has a better effect. Only when there is a scattered follicular development does the chlorine seem superior.

In *blennorrhœa* and *diphtheritis* it proved to be inferior to the methods in use.

In *follicular conjunctivitis* (*granular disease*) it is tolerated at an earlier period than the caustic, and has a beneficial effect. In the later stages (with or without secondary chronic blennorrhœa), especially in very old cases, where the conjunctiva is atrophied, or where there are still granular outgrowths, and where besides there is a dense and rebellious pannus, it has a very striking effect. Thus, in two cases which had resisted all treatment, including in both examples syndectomy, in one patient inoculation, this means caused most satisfactory improvement.

In simple *phlyctenular conjunctivitis*, it has an injurious effect when there is a tendency to keratitis. On the other hand, it acts beneficially when the disease is complicated with contagious catarrh, as so often occurs. It is decidedly beneficial in that variety of the affection in which there are *broad patches of infiltration projecting beyond the level of the conjunctiva bulbi:* these spots soon lose their epithelial covering.

Digitized by Google

and become ulcera elevata. Such infiltrations run a tedious course of from three to six weeks' duration. The aqua chlori was used in some twenty cases of this kind with an immediately beneficial effect.

The remedy proved of the greatest value in *central torpid purulent infiltrations of the cornea* (hypopion keratitis with progressive purulent disintegration, central phagedenic keratitis, &c.). To the remarks already made (A. f. O. vi. 2, p. 135) on these forms by the author, he here adds a few words on their development: "This dreaded form may appear as such from its very beginning, a purulent, ulcerous infiltration forming in the central portion of the cornea, and rapidly becoming diffused centrifugally, whilst the irritability is unnaturally depressed; or at the commencement there is a circumscribed infiltration of pus accompanied by a state of excessive irritation, with dreadful ciliary pains. After a time the irritation suddenly disappears, yet not with the anatomical signs of reparation, but on the contrary with those of progressive necrosis. I almost imagine that the latter is the more common mode of development. When there is a decided tendency to centrifugal diffusion of the corneal suppuration whilst the irritation is slight, chamomile fomentations and the pressure-bandage, used alternately, generally answer best, as I have previously remarked (*l. c.*), whilst, when the disease runs the second-mentioned course, subcutaneous injections of morphia and chamomile fomentations are to be recommended in the first stage, though the pressure-bandage is contra-indicated. To these means and to atropine, which is throughout indicated, may now be added, after many striking successes, the aqua chlori (carefully dropped on the cornea twice or thrice daily). It is especially adapted to the later stage of the affection, when yellow semicircular infiltrations pass from the original centre into the adjacent cornea, announcing the dreaded diffusion of the process. The indication is yet more decided for aqua chlori, when, as is not uncommon in this period, there supervenes marked conjunctival swelling, which, on the other hand, warns us to limit the tepid fomentations to shorter periods of time. When, as a secondary result, the iris already presents a yellowish swelling, atropine is almost without action, and the aqueous humor, with or without hypopion, is of a dirty-yellow or stripily clouded, if, in short, there is secondary iritis, I am convinced that iridectomy is always indispensable as the very first means of treatment. Many cases then steadily improve without other treatment. In others we find that after a stationary period of two or three days, counting from the operation, the semicircular sudden infiltrations appear again. Although they are not so much to be dreaded as before the iridectomy, as the inner corneal lamellæ do not now usually slough, yet it is of the utmost importance to limit their extent, for they represent the boundaries of the consequent, usually very dense, corneal opacities. If I may conclude from five very striking cases, the aqua chlori, which may be applied so soon as thirty hours after the operation, is just the means required."

The author's trials give the following indications for the use of this remedy:—

1. In contagious catarrhal ophthalmia, either as the only treatment or as a preliminary to local cauterization.

2. In recent follicular conjunctivitis, when the sub-conjunctival injection and irritation are not too great; likewise in the later stages, with-

Digitized by Google

out or with chronic blennorrhœa, unless the mucous membrane should present marked symptoms of relaxation.

3. In old trachomatous granulations with obstinate pannus, especially when the conjunctiva is to some extent atrophied.

4. In phlyctenular conjunctivitis, when a moderate degree of irritation is accompanied by swelling of the conjunctiva.

5. In broad, prominent infiltrations on the conjunctiva bulbi, threatening ulceration.

6. In torpid purulent infiltrations, either without previous iridectomy or after it.

As contra-indicating this means in conjunctival affections, von Graefe notes too great tension and resistance of the mucous membrane, threatening or already existing acute keratitis, or in general, any excessive irritation, as proved partly by the appearance of the eye and partly by a trial of the remedy.

If we were to characterize the therapeutical action of this remedy, in respect to the eye, we should say that it is an alterative and astringent, having a very slight chemical action on the epithelial covering, a decided influence on vascularization and secretion, opposing the development of the lymphatic follicles, and exciting a tendency to reparation in certain ulcers.—*Ophthalmic Review.*

Deposit of Pus Between the Layers of the Cornea, or Onyx; Treatment by Operation. (Under the care of Mr. HAYNES WALTON.)

THE cornea, of all the tissues of the eye, except the crystalline lens, is least capable of resisting disease or recovering from damage, on account of being an extra-vascular tissue, and therefore of low vitality and less capable of repair. Then, a transparency is essential to the exercise of its function, partial interstitial alterations, that would be unimportant in most of the other parts, might be fatal here. When acute inflammation invades it, suppuration is very apt to follow. But acute inflammation rarely occurs, except as the result of a blow on the eye, or from a wound. The symptoms are—pain, redness of the eye, intolerance of light, profuse lachrymation, and impairment of vision; haze of the cornea follows, in some part of which, generally near the centre, a small spot becomes more densely opaque, then enlarges and turns yellow, pus being now deposited, and an abscess is formed. Whether the abscess opens behind or in front, the cornea is always more or less spoiled, and the vision is invariably damaged, and in most cases quite lost.

Mr. Walton has for years pointed out the inefficiency of all treatment in this abscess stage, and confessed his inability to discover any remedial measures. At present, however, he is adopting a practice which unquestionably saves many eyes, and limits the damage in others, the effect mainly depending on the early application of it. This is the evacuation of the pus from the cornea by a sufficient puncture, together with such local and general treatment as symptoms may seem to require. So soon as the deposit of pus can be recognised he makes an incision with one or other of his iris knives, according as he needs a large or a

Digitized by Google

small one, penetrating the corner on the margin, and pushing the instrument between the corneal layers on to the abscess. The pus readily escapes, a fact that would seem to establish the opinion of this fluid being in an abscess cavity, and not diffused between the corneal layers —a theory not in accordance with pathology.

Mr. Walton's deductions to the present time from cases operated on during the last two years are these :—That perfect recovery may ensue when the deposit of pus is small; that the intensity of an inflammatory attack may cease from the time of the operation and the worst effects of the disease be averted, so that ultimately an opportunity may be afforded for an artificial pupil, and sight be saved; that when, from the extent to which the cornea has been implicated in the abscess, nearly all or all of it being involved in the abscess, and any recovery of sight is impossible—in which case the entire eyeball suffers from the inflammation,—the evacuation of the pus affords the greatest means of relief, and generally alleviates suffering. Mr. Walton was originally induced to try this treatment from the recommendation of his colleague Mr. Taylor, who had applied it with advantage.—*Lancet.*

Suture of the Flap after the Extraction of Cataract : By HENRY W. WILLIAMS, M. D. Read before the American Ophthalmological Society, June, 1866.

ANY method by which the risks attendant upon the extraction of cataract can be lessened, and the period of convalescence shortened, will be gladly welcomed by the medical profession; these results Dr. Williams proposes to accomplish by placing a single point of suture at the apex of the flap of the cornea after extraction of the lens, a very minute straight needle of less than a quarter of an inch in length, and a single strand of the finest silk being employed. The suture is said to give rise to no irritation of importance. It is generally removed in a week's time if not sooner coming away, but it has been allowed to remain a much longer period without any bad result. The extraction is done under ether, and a compressing bandage applied.

There are many advantages claimed for this method: among the most important are, the prevention of prolapse of the iris, the better adaptation and consequent quicker healing of the corneal wound, and the diminished risk from efforts, voluntary or involuntary, on the part of the patient. "In twenty-four cases subjected to this treatment there have been only two failures."

Discussion would seem out of place upon a subject that has already passed from the domain of theory into that of practice. We must await the logic of facts as shown by results. If these latter prove favorable, as they bid fair to do, in realizing the expectations formed of this operation, Dr. Williams has made a most important addition to the ordinary method of extraction, and is entitled to the thanks of his surgical brethren.

Digitized by Google

It is interesting to note, in this connection, that the usual operation for extraction of cataract seems in danger of being superseded by Graefe's recent method of extracting through a cut made in the sclerotic. Thus far he has obtained more favorable results by this than by the old method, and we understand his operation is being extensively performed in Germany.—*New York Medical Journal.*

PATHOLOGY.

What is Tubercle?

THOSE who listened to the debate at the Pathological Society on the evening of the 2d of April, could hardly fail to put to themselves, in dire perplexity, the question—What, then, is tubercle? We do not say that we can answer the interrogation either to our own satisfaction or that of any one else, but we may succeed in laying the matter in dispute plainly and intelligibly, as far as our knowledge at present extends, before our readers.

Originally, of course, the word tubercle bore with it no distinct meaning beyond the idea of a small tumor; but, Laennec, applying it to the diseased condition so often encountered in the lungs, spoke of tubercular granulations and infiltrations, in the latter term departing entirely from the original idea of tubercle, besides bestowing upon it a character of specificity. What then was this specific product, for there were and are recognized two varieties of tubercle—the gray or miliary, and the yellow or crude? According to Bayle, the gray granulations were non-tubercular; Laennec, on the other hand, regarded them as essentially so—in fact, the invariable precursors of the yellow or crude variety of tubercle; whilst most moderns look upon them as the only correct representatives of that substance. Until lately Laennec's view has been the one accepted in this country, yellow tubercle being looked upon as the ultimate result of the miliary, although by many the cheesy stage was accepted as a starting-point for the interpretation of the whole process of tuberculization. Miliary tubercle was supposed to be the result of inflammation and consequent exudation, but, the blood being vitiated and the constitution depraved, the effused product assumed this imperfect form instead of that ordinarily investing healthy lymph. The granular tubercles thus formed were supposed to be incapable of reproducing themselves, having no power of cell formation, and consequently only increasing by accretion. They involved none of the surrounding tissues, only appearing to affect them as any foreign body would, whilst being gifted with but a lowly organization, they were extremely liable to degeneration. In this way the large cheesy masses encountered in the lung were supposed to be produced, and these masses were by many accepted as the true representative of tubercle. Still, till recently no one doubted the accuracy of the views just cited, but two great

Digitized by Google

blows were struck, and the stability of these doctrines, thus roughly tested, was found to be deficient. Probably the first of these in point of time was the discovery that the cheesy mass constituting crude tubercle was very far from being invariably of a tuberculous nature; in fact, after a certain stage, it could not be made out whether the mass had been originally tubercular, or was the degenerate remains of pus, cancer, sarcoma or pneumonic deposits. The other was Virchow's discovery of the history of tubercle, and his tracing it through all its stages, from its earliest origin in connective-tissue cells, to its final softening and expulsion. By the former, the unfailing certainty with which any cheesy mass encountered in the lungs or elsewhere was pronounced tubercular, was rudely dispelled; by the latter the inflammatory and exudative origin of tubercle was treated in a similarly summary manner. As a further consequence of the discovery of the essentially cellular nature of tubercle, its type is no longer sought for in its commonest situation, the lungs, but in other organs whose constituents are of a less perplexing character—as, for instance, its serous membranes. There the proliferation of badly formed and nourished connective tissue cells may be readily observed, their products assuming that shrivelled, unwholesome, and granular aspect seen in tubercle. One situation seems to be peculiarly well adapted for examining the growth of tubercle—that is, the lining membranes of the skull and coverings of the brain; yet many French observers, including no less an authority than Robin, hampered by the old notions as to the cheesy nature of tubercle, refuse to accept the bodies produced there as tubercular. Recent researches by Dr. Bastian, as to the origin and growth of tubercle in that situation would seem to prove that meningeal tubercle does not originate from connective-tissue corpuscles, but rather by the excessive proliferation of the epithelial cells and nuclei lining a series of peri-vascular canals which have been demonstrated by His to surround the vessels of the brain and meninges. There the process of proliferation goes on at an increased rate, but for want of proper nourishment the cells become worse and worse formed, and their contents more and more granular, until the mass almost entirely loses its cellular character. There is no exudation, but the deteriorated quality of the blood influences the process so far as to give rise to a granular instead of a cellular product. Is this, then, inflammation? Essentially it is, for according to the doctrines of the new school, inflammation only consists in the excessive proliferation of cells, accompanied by certain manifestations of local and general disturbance.

But of late the matter has assumed an entirely new aspect by the experiments of M. Villemin. Investigating the history of tubercle, and seeking some more satisfactory information as to its origin than had hitherto been given, M. Villemin was induced to try the effects of inoculation. A small quantity of that substance was introduced into a little wound behind the ear of a rabbit, and the opening closed. When examined, tubercle of the gray or miliary kind was found in various parts of the body, particularly in the lungs. The experiments were repeated again and again, but in all cases with a like result, and M. Villemin came to the conclusion that tubercle was thus transmissible from one being to another. Other experimenters came forward, among them the famed Lebert, who also confirmed Villemin's results. The attention of

Digitized by Google

many of our indefatigable pathologists being thus drawn to the investigation, they, being far from satisfied with the accuracy of the experiments, resolved to undertake fresh ones for themselves. Among others, Mr. J. Simon and Dr. Andrew Clark had been working at the subject, and both laid the results before the Pathological Society. In some very important particulars Mr. Simons's results differ from those of previous investigators. Thus he made use of yellow or crude tubercle, a product which, as we have already seen, is of by no means a certain origin; even of this he used but a very small quantity, which was introduced into a wound of, comparatively speaking, a small size; further, the substance produced possessed more of the characters of crude than of miliary tubercle, and this was found in various parts of the body.

Dr. Andrew Clark had made use of gray tubercle, and had succeeded in producing something resembling gray or miliary tubercle, but which he maintained had altogether a different structure, being distinctly cellular in its texture and having characters identical with the products of lobular or epithelial pneumonia. This product, he maintained, had not the same destructive influence on life as tubercle in the human subject had, and as to its being miliary tubercle, the eye alone was not a sufficient test. But by far the most important point was, that he had been able to produce similar matter by inoculating with substances of a non-tuberculous nature, as cancer and pus. Further, he argued, were tubercle so readily transmissible, why do we not more frequently find the husband infect the wife, and *vice versa?* And so the matter rests.

Shortly, the facts may be stated thus: The true or miliary form of tubercle seems invariably to originate by the proliferation of certain cells, the products, from the vitiated condition of the blood, being more or less imperfect (Virchow, Vulpian, Bastian). Some local stimulus is, however, wanting in addition to the ordinarily deteriorated state of the constitution, and this may be supplied by the introduction of miliary tubercle (Villemin, etc.), by crude tubercle (Simon), or other morbid substances (Clark) into the system. The products of the cell proliferation would seem, however, probably from the healthy condition of the animal, to possess more of a cellular and less of a granular character than in man (Clark). It is obviously foolish to talk of the immediate product of Mr. Simon's experiments as crude tubercle—a decaying or degenerating substance; it may have been of the nature of miliary tubercle originally, or it may not; but to suppose that this half-dead matter was the immediate result of introducing other half-dead matter into the system, is absurd.

Stripped of all garnishing, these are the facts. As yet they are too scanty in number to allow of any extensive generalization; but the field is now filled with able and willing workers, and we hope that before long the vail will be raised still further, and we shall have a nearer insight into this most interesting morbid process.—*Medical Times and Gazette.*

Entophytes in Cholera.

In anticipation of the possible outbreak of cholera, Mr. Simon drew the attention of the Pathological Society to the recent researches of M.

Digitized by Google

Thomé and others, which point to the enormous development of entophytic growths in the intestines and stools of cholera patients, with a view to encourage special examination of the subject, should an opportunity unhappily offer itself. Dr. Sanderson and Mr. Hulke were appointed to report on specimens of the fungus presented to the Society through its President by M. Thomé. In the Lancet for March 9th, 1867, we mentioned that Dr. Klob believes the fungus to be a species of Leptothrix, and Dr. Debey a new variety, which he names Cholerophytum. M. Thomé calls the early stage "cholera yeast."—*Lancet.*

SURGICAL.

On Soluble Bougies. By Mr. HENRY THOMPSON, Surgeon to University College Hospital.

BELIEVING that the imperfect action of injections depends upon the very short time that they are in contact with the mucous membrane, Mr. Thompson conceived the idea of applying the astringent in such a form as would enable it to remain for a much longer period in contact with the inflamed surface. Under his direction, Messrs. Bell & Co. have constructed "soluble bougies," two or three inches in length, made of cacao butter, containing the drug it is wished to apply. They are cast in moulds, are perfectly firm and smooth, and may be used in any length, but that named has been deemed the best. A soluble bougie, equal in size to about No. 8 or 9 of the catheter scale, may be introduced (having been previously oiled) by the patient himself into the urethra, where the material gradually melts in the space of about ten minutes. The patient is directed to slip one of these bougies into the passage on going to bed.

After trying many methods for retaining the bougie *in situ*, Mr. Thompson has adopted the following: A piece of adhesive plaster is cut, nearly an inch wide and five inches long. A piece of Taylor's stout lint, of the same size, is rolled up into a little pad and laid on the centre of the plaster, which is warmed, and applied along the lower surface and dorsum of the penis, the prepuce meanwhile being fully retracted. A second strip of plaster, half the width of the first, is then put closely around the glans penis transversely. The bougies are made to contain either a quarter of a grain of nitrate of silver, a grain of tannin, two-thirds of a grain of acetate of lead, or ten grains of nitrate of bismuth, as astringents; while others are sedative also, and contain two grains of opium, or two of belladonna. Other materials can, of course, be employed. By this plan Mr. Thompson has satisfied himself that the active agent is kept for several hours in contact with the urethral surface, and is, moreover, necessarily squeezed into the lacunæ, which often, doubtless, escape being acted upon by injections.—*Lancet.*

Digitized by Google

Stricture of Urethra, with Scrotal and Perineal Fistulæ for Twenty Years—Extravasation of Urine—Good Recovery. (Under the care of Mr. PAGET.)

THE following case is an important one. Mr. Humphery, who has been good enough to supply the notes, remarks upon it—"The catheter was only once used during the patient's stay in the Hospital. The patient came in with a bad stricture, and infiltration of urine into the cellular tissue of his scrotum and abdomen. He left with a perfect clearance of all this mischief, and a good passage for his water." It is scarcely putting the case too strongly to say that a great revolution has lately been, and is still, in progress in the treatment of diseases of the urethra. Formerly the catheter was regarded as the great means of cure. A large part of treatment consisted in its frequent use; and in extravasation of urine it was the almost invariable rule to pass a catheter and leave it in the bladder. It is obvious that, as the urethra in cases of extravasation of urine is generally very much diseased, so that to pass a catheter is a matter of great difficulty, its condition must be much aggravated by the attempt, and also by the subsequent presence of the instrument. Many surgeons of the highest reputation in England now teach that the frequency of strictures that require dilatation by instruments has been vastly exaggerated; that in a large number of cases. if the patient, instead of constantly standing, or walking about, and perhaps living intemperately, is placed in bed, and kept warm, and supplied with only mild diet, it will be found that his "stricture," which depended in great part on turgescence of the mucous membrane of the urethra, will become so much relieved that no instrument need be passed. The great tendency of practice is to avoid as far as possible all use of catheters. Mr. Henry Thompson has written strongly in recommendation of it, and of the use of flexible rather than metallic instruments, as inflicting much less injury; and we have heard Mr. Paget and Mr. Savory often insist that the habit has been to use catheters much too freely. Mr. Savory had, a short time since, under his care a patient said to have a bad stricture, whose urethra when he came into the Hospital admitted a catheter no larger than a No. 3; but at the end of a week, although the stricture was said to be of long standing, a No. 10 was passed easily, and he was ultimately discharged able to pass urine in a good stream. Many such cases will occur in the practice of any surgeon who, before he attempts dilatation, allows, what probably the patient has never given himself, the benefit of, rest and warmth, and careful diet; after which the chronic congestion, on which much of the obstruction of the urethra has depended, will subside, and urine will be easily expelled. Of course there are cases which cannot be managed without the use of instruments; but they are very much more uncommon than they are by some thought to be.

W. D., aged 54, admitted October 26 from the out-patient room, where he was being treated for swelled testicle, of which he has had numerous attacks. He had severe rigors on admission, and was sweating profusely, and in great pain. History: A most intemperate man; had gonorrhœa thirty years ago, and says he has had a yellow discharge from his urethra every since. A year from the time of first catching gonorrhœa he suffered from incontinence. Ten years after that he had

Digitized by Google

an instrument passed, but No. 3 was the largest. Since then he has always had difficulty in making water. A month ago he had a rigor, and his testicles again swelled and inflamed. His scrotum is now swelled and œdematous. His groins are also swelled and tender, and he has great difficulty in making water.

October 27.—Mr. Paget passed a No. 3 catheter into the bladder. It gave him a great deal of pain, followed by a rigor. Ordered a warm bath at night; liq. opii sed. ℥xl.

28th.—Had a fair night. Scrotum more swelled. Ordered full diet; gin ℥vj.

29th.—To-day Mr. Paget made a number of incisions of considerable length into his scrotum, perinæum, and the lower portion of his abdomen, letting out a quantity of fœtid pus and urine. To drink freely of barley water.

November 1.—Much easier. Urine flows through the lower wound in his perinæum. He takes his food better than he did. Has a warm bath every morning; the incision syringed out with carbolic acid lotion (℥ij. ad Oj.). Passes his water more easily.

7th.—Very free discharge of healthy pus from the wounds, which are healing, large sloughs of cellular tissue having come out. Great discharge from his urethra. Passes his water more freely.

14th.—Very much better in every way. Getting stronger; wounds healing; less discharge from them.

15th.—This morning had a rigor. Thinks it was because he got his gin later than usual. In other respects very well.

24th.—No mischief ensued from the rigor. The wounds are now almost healed. He is quite strong and well, and passes his water freely—as he says, better than he has done for twenty years. To go out.—*Medical Times and Gazette.*

Case of Vascular Tumor of the Tongue, Cured by a Temporary Ligature. By M. H. Collis, M.B. University Dublin.

In the year 1854, a child, named Doyle, aged two years, was brought to me with a vascular tumor of the tongue. It had appeared at birth as a red point at the left side of the tip of the tongue. From this it grew steadily, and when brought to me it had reached the size of a small walnut; it had extended into the substance of the tongue as far as the mesial line, and backward so as to implicate altogether about one-third of the left half of the tongue. It was blue in color, with bright red dots here and there on the surface. When compressed firmly it became much smaller, but filled again the moment the fingers were removed. The feel of it was just like a bag of live worms. It had bled violently on one occasion, when the child had bitten it in falling; with much difficulty the parents had stopped the bleeding. They were much alarmed at this, and at its rapid growth. Nevus of the tongue is not very common, and this happened to be the first case I had seen. I treated it as I have often treated nevus of the lip, or elsewhere on the skin. I in-

Digitized by Google

cluded the entire growth in two ligatures, tied with some force, so as to compress the larger vessels, and stop the circulation in them, without completely strangulating the mass. In twenty-four hours I cut these ligatures, and removed them. The tumor then shrunk to half its former dimensions, and was little larger than the portion of healthy tongue should have been whose place it occupied. It was firm and solid; a blue grey on the surface, and slimy; with a line of superficial ulceration separating it from the sound parts. Still its heat was good. Next day it had recovered some redness; and, to be brief, in a few day's time the line of ulceration had healed, the tongue became of normal size, and but for the blue color of the affected part, nothing abnormal would have been noticed. The consolidation of the part advanced from day to day, and I have the satisfaction of knowing, after twelve years, that the cure has been permanent. The boy is now fourteen years of age, and is serving his time in a shop in the Liberties. He has never had hæmorrhage of the tongue, nor is it now at all larger than it ought to be; his articulation, as might be supposed, is satisfactory.

I conceive that this method of treating nevi deserves some attention. It is quite practicable to tie a nevus so tightly as to cause its consolidation without necessarily causing it to slough. The ligature can be removed in from twenty to forty-eight hours, according to the density of the integument and the size of the nevus. Small ones will slough off in half the time that a large one will take to consolidate; that is. if they are tied equally tight. It is impossible to give any rule for gauging the tightness in any given case. This is just one of the points where each man must learn by experience. This, however, can be inculcated, that it is better to tie too loosely than too tight, where a mark is of consequence. A repetition of the ligature is a lesser evil than a large cicatrix.—*Dublin Quarterly Journal Medical Science.*

Case of Traumatic Tetanus successfully treated by the direct Application of Infusion of Tobacco. By JOHN B. JUNOR, L.R.C.S E., Peebles. ON the 21st of August last, I was called to see M. M., a girl of nine years of age. who had got her left leg severely injured by a large copestone falling on it.

There was a very much lacerated and contused wound of the calf of the leg, extending from immediately below the knee to beyond the ankle, eight and a-half inches long and above four broad, laying bare the posterior tibial artery in the whole of its length. I brought the edges of the wound together by four stitches; but, as was to be expected, no union took place. In the course of a few days, two large sloughs came away, after which water dressing was applied. Healthy granulations sprung up, and the child's appetite and general health continued good, and all seemed to be going on well.

When I paid my visit on the 31st I noticed a peculiarly anxious expression of face; but as the wound had been newly dressed. I attributed it to pain. Next day, she complained of her jaws being stiff, which excited my suspicions, and I ordered fomentations. When I next saw her,

she could open her mouth only to a trifling extent, and the muscles of the neck and abdomen were very rigid. I ordered eight drops of chlorodyne (which was the sedative I used throughout, except on two occasions, which I shall allude to at the end, not to interrupt the narrative) to be given every four hours, fomentations of a decoction of poppy heads to be applied to the abdomen, also linseed-meal poultices, made with the same decoction, to the wound.

The chlorodyne procured a little sleep, but the tetanic symptoms increased. The rigidity gradually extended over the body, and the paroxysms became more severe and frequent.

I now applied a belladonna lotion to the wound, and raised the dose of chlorodyne to ten drops, which produced a decided amelioration of the sufferings; the mouth opening to a greater extent, and the muscles of the abdomen becoming less tense. This, however, did not last long; all the symptoms again gradually increasing in intensity.

On the 5th of September, six days after the first indications of tetanus appeared, I applied to the wound stupes of an infusion of cavendish tobacco, one-half ounce to the pint of water.

The state of matters at this time was as follows: The muscles of the jaws, neck, back, legs, abdomen, and arms, were quite rigid, the legs widely separated and drawn up, and the hands twisted round. The paroxysms were very severe and frequent, causing contortions of the face (the tongue was frequently bitten), violent shaking of the whole body, and difficulty of breathing from spasm of the muscles of respiration. The sufferings of the child were extreme!

Within two or three hours after the application of the tobacco, the improvement was most marked. All the rigid muscles became, to a considerable extent, relaxed; the mouth could be opened about half an inch, the paroxysms were less severe and frequent, and a good deal of sleep was obtained.

The tobacco caused no sickness; but the appetite, which had been hitherto good, completely left the child, and the efforts to induce her to take food or stimulants invariably induced a paroxysm. I had recourse to beef-tea injections.

After applying the tobacco for three days, as the pulse became very weak and the strength was going rapidly down, I went back to the belladonna lotion. The appetite returned, but, unfortunately, the tetanic symptoms became worse also, which caused me again to apply the tobacco (this time one ounce to the pint), with, as on the former occasion, favorable results, but to a greater extent, and without interfering with the appetite. The paroxysms were comparatively trifling and at long intervals; the muscles, however, of the back, legs, and arms continued rigid, and the body, when lifted, was as stiff as a board.

On the 23d of September, as the wound, which had been rapidly healing, was looking rather unhealthy, I removed the tobacco and applied water dressing. About three or four hours after, I was sent for in great haste, as the parents thought the child was dying. I found her suffering from a more violent paroxysm than she had yet had, suffocation seeming imminent from the spasm of the respiratory muscles. She had been getting rapidly worse from the time of the change of the dressing. I at once re-applied the tobacco, and in the course, I may say, of a few minutes, the paroxysm passed away, and matters returned to their former state.

Digitized by Google

Ten days after, for the same reason, I ventured to substitute the water dressing, again the paroxysms returned, although not so severe, and again the tobacco dispelled them.

I put a piece of lint, wet with black wash underneath the tobacco cloth, and the wound continued to heal kindly till the termination of the case. The pulse was quick throughout, about 120, but never very weak, except when the child refused to take any nourishment.

About ten days after I began the use of the chlorodyne, as it was paralyzing the expulsive powers of the bladder, I gave tincture of Indian hemp instead, fifteen drops every four hours. This had not the same sedative effect, sleep almost left, and the tetanic symptoms rather increased. In about forty-eight hours, the bladder recovered its power, and I returned to the chlorodyne. On an after occasion, I was again obliged to cease giving it, and tried sol. mur. morph., eight drops every two hours, without any soporific effect. I resumed the chlorodyne as soon as I could, and as it was not necessary to give it so frequently, I did not require to try any other sedative.

After the first eight or ten days, I felt satisfied that the tetanus would not be cured till the wound was healed, and my object in treatment was, to keep the paroxysms as far as possible under control, and maintain the strength of the patient by nourishment and stimulants until that was accomplished. The result proved that I was right. As the wound contracted, the rigidity of the muscles abated; but it was not till the 9th of October that they were sufficiently relaxed to allow the child to sit up in bed. The spasm left the injured limb last. To-day, 30th October, I found her by the fireside, and the wound completely cicatrized.

There can be no doubt that, in this case, the recovery of the patient was due to the tobacco application. The giving up of the use of it was always followed by an aggravation of the tetanic symptoms, which were at once relieved by resuming it.

The suggestion of Mr. Tyrrel of Dublin, to produce a large raw surface by blisters or otherwise, in idiopathic attacks, is strengthened by this case.

I tried ineffectually to get nicotine in Edinburgh; but as the remedy was a very severe one for so young a patient, and the case was promising well, I did not think it necessary to send to London for it.

The superiority of chlorodyne over the other sedatives which I used was very decided; and I was so satisfied with it, that I would not have made any change had it not seriously diminished the expulsive powers of the bladder. I find that chlorodyne produces this effect, when taken for a length of time in frequent doses.—*Edinburgh Medical Journal.*

On a Case of Internal Strangulation of the Bowel by a band, associated with a reducible hernia, successfully treated by operation: with remarks. By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon to Guy's Hospital.

THE case was one to which the author was called on Dec. 31st, 1866, by Dr. Wilkinson, of Sydenham. It was that of a gentleman, aged fifty-one, who had been ill for several days with symptoms of intestinal ob-

Digitized by Google

struction. The patient had been the subject of an inguinal hernia on the *right* side for twenty-five years, for which he had worn a truss; during that period the bowel had come down on several occasions, but it had only given pain on one—some six months previously. On the morning of Dec. 28th, during the exertion of dragging up a tree, the hernia partially descended. but it was at once readily returned on the application of the hand; vomiting, however, soon appeard, and pain situated on the *right* side of the umbilicus. These symptoms continuing on the 29th and 30th, and increasing in severity, Dr. Wilkinson was sent for. A careful examination was then made, but no hernia was found; there was a large opening into the abdomen, but no swelling nor pain even on deep pressure being made. On Dec. 31st (the third day) the symptoms becoming more severe, vomiting being fæcal, Dr. Wilkinson, who saw the necessity for an operation, called in the assistance of the author. The seat of the hernia was then examined, but no indications of anything wrong in these parts could be made out, yet marked symptoms of intestinal strangulation existed; pain in the abdomen was very severe; it was situated to the right of the umbilicus, and paroxysmal. Under those circumstances an exploratory operation in the region of the hernia was proposed, and power given by the patient to do whatever might be deemed best. Chloroform was given, and the ring of the direct inguinal hernia exposed; no signs, however, of any strangulation of the bowel by the parts concerned in the hernia could be made out. A piece of omentum existed in the hernia sac, but no bowel. The finger could also be readily passed into the abdomen, and the neck of the sac was perfectly free. The bowel which came into view was, however, clearly stragulated, for it was of a bright cherry color, and œdematous. Under these circumstances the ring was enlarged upwards and the strangulated bowel drawn down; the finger of the author's right hand was then passed along the bowel, used as a guide, upwards into the abdomen towards the point of fixed pain. When it had been passed as far as it could go, and as much traction had been put upon the bowels as was deemed justifiable, a tight band was clearly felt. The abdominal incision was then enlarged, and the band, which was made tense by the fingers, was carefully divided by a pair of scissors passed into the belly, its points being well pressed into the pulpy portion of the finger till the band was reached. The wound was then closed. On the third day the bowels acted naturally, and a rapid convalescence followed.

The author then made some few remarks upon the case, stating that it must be looked upon as one of internal strangulation of the bowel by a band, and that the hernia had nothing whatever to do with the symptoms. He then passed on to consider the points in the case with reference to the diagnosis, and related the particulars of a similar case which took place in his practice six years previously, in which such an operation as he had performed was proposed but abandoned, and the patient died unrelieved.

An analogy between the successful and fatal cases was then drawn, and the special practical points dwelt upon, the author concluding by stating that he was disposed to believe that in many cases of intestinal obstruction, when the symptoms are marked, and pain fixed and paroxysmal, whether with or without a hernia, relief might often be afforded by an operation where they are now left to die; and he expressed a hope that the cases he had brought before the notice of the Society would do something towards the attainment of that end.—*Lancet.*

Traumatic Tetanus treated successfully with the Ordeal Bean of Calabar.

THE London Lancet, of March 2d, 1867, gives a report of two cases of traumatic tetanus, treated with the Calabar bean, by Dr. Eben Watson. This practice was first tried by Mr. Holmes Coote, and reported by him in the Lancet of March 26th, 1864. The medicine, however, in his hands was not followed by any beneficial effects, and the only fact established by his report seems to have been "the tolerance which tetanic patients have of this powerful agent." The author of the present report, however, is inclined to the belief that failure of good results here were due to not pushing the medicine "far enough."

CASE 1, reported by Dr. Watson, was admitted to the Royal Infirmary on November 12th, 1866; the injury (a bruise and cut of the foot) had been received six weeks prior to entry, and the tetanic symptoms had appeared about six days before. The patient, a female, aged about eleven years. On the evening of her entry, the spasms are described as having been of a very severe character and often repeated, being only relieved by the administration of chloroform, and only while under its influence. From the 12th to 15th the ordinary treatment was followed, viz: purgatives and sedatives, with no benefit, the spasms every evening increasing in intensity. On the 15th, to quote from the author:

Bowels acted freely yesterday; stools quite black. She has taken the Indian hemp very irregularly, sometimes spitting it out.

Every evening there is a considerable aggravation of the spasms, and this seems to be more and more marked each successive evening.

At half-past two P. M. of the 15th November, one square of Squire's gelatine paper, containing the extract of Calabar bean, was put on the patient's tongue through the space left by a missing tooth. Shortly after getting it she felt easier, was more cheerful, and kicked up her heels as she lay in bed on her abdomen, to show the power she had over them. At three P.M. she got two other squares, at seven P.M. three squares, and at ten P.M. two more. No severe spasms occurred during this evening; she had only a few short starts, but she was always very rigid in both body and limbs, and the opisthotonos and trismus were quite marked. She was more cheerful, however, and spoke more distinctly. Pupils rather contracted. She was to have two squares of Calabar paper every hour during the night.

16th.—This morning I found her quite rigid, and with frequent and severe spasms. In fact, I thought either that the papers were not sufficiently strong, or that they were loosing their influence on the patient. I now therefore ordered the following preparation: Extract of Calabar bean, twelve grains; white wine, one ounce. This made a muddy sort of wine of the Calabar bean, every five drops of which contained about one-eigth of a grain of the extract. Such a dose was to be given every half hour, the effects being carefully watched by my assistant. It will

Digitized by Google

be noticed that the doses were given very close together, for we had already learned that their effects were very short-lived. These doses were regularly given till seven P.M., by which time she had taken eighty drops or two grains of the extract. Only momentary twitches had occurred, and these principally when spoken to. At half-past seven P.M. she was in a semi-comatose condition, lying on her back, with no arching, mouth open, pupils pretty well contracted, breathing quiet and regular, pulse rather hurried and full.

In this state of things the Calabar bean was intermitted for two hours and a half—i. e., till half-past nine P. M., by which time the pupils had again dilated, and transitory spasms were induced by touching or rousing the patient with questions. Nine drops of the wine were then given, and five drops thereafter every hour during the night.

18th.—She continues better, breathes more easily, and swallows better; pulse 84, of good strength; pupils natural. Increase the dose of the wine to ten drops every hour.

19th.—Notwithstanding this increase, the patient had three severe fits of opisthotonos early in the morning, and she remained very rigid and the spasms easily excitable till my visit. I now determined to use a stronger dose of the extract, and thus endeavour to conquer the disease. For this purpose I ordered the following pills:—Extract of Calabar bean, twelve grains; ginger powder of sufficient quantity to make twenty-four pills; one to be taken every hour. By mistake the apothecary made these pills of twice the strength ordered—viz., containing each one grain instead of half a grain of the extract. This was not, however, discovered till the evening, so that the patient took one grain of the extract every hour for eight hours without any particular effect being produced. But half an hour after the ninth had been swallowed, the patient fell into the following state: Her eyes were widely opened, staring and glassy; the pupils were contracted to pin points; the pulse was rapid and intermitting; there was a mucous rattle in the throat, and the breathing was jerky and fitful. Patient did not answer questions, and gave no sign of sensibility. She had no spasms, neither could they be induced. In fact, all the muscles were completely relaxed, except those of the back, which were still rigid. She either could not or would not move any of her limbs, or make voluntary efforts to swallow. Some brandy-and-water and seven drops of the tincture of belladonna were poured down her throat, she not resisting, and this was repeated in five minutes. No effect was produced on the pupils, but the expression became less death-like. Patient was turned over on her side, for she had lain on her back hitherto, and then she got quit of some reddish-colored, apparently bloody mucus from the throat by both mouth and nose. The breathing was thus rendered easier, but it was at first very hurried and panting. Gradually it became fuller and slower, and the pulse likewise became slower and more regular. The pupils soon dilated, but the extremities remained quite flaccid during the greater part of the night. As soon as the breathing was partially restored, she seemed to be quite sensible, but averse or unable to move. Towards morning the spasms, though less violent, could be easily induced; and next morning, at half-past eight, I found no traces remaining of the very remarkable state in which she had been on the previous evening. She was, however, flushed and perspiring; the pupils were quite natural, but the pulse was quicker

Digitized by Google

than formerly; it numbered 108 in the minute, but was soft and regular. She expressed herself as better. She had no giddiness or any other disagreeable feeling attributable to the Calabar bean, and she was perfectly correct in her mind.

I remarked that the arms, though still unnaturally stiff, were more under the control of the will than they had been. She could move them a little, and she could separate her teeth just enough to get the edge of a spoon between them. She could also swallow better, and she lay much more quietly, and now generally on her side, in bed.

I considered it prudent to cease giving the bean to this patient for a time, and allow her to rally quite thoroughly from its effects. I therefore stopped it, and once more ordered the tincture of cannabis indica, with appropriate food and stimulants. Under this treatment she improved in strength, but not much in respect of the tetanus. Her spasms certainly never were so strong as formerly but they were very easily produced, showing that the disease was still unconquered. Besides, the body and legs became again quite stiff, so that if one could have raised her by the foot, he could have held her straight out in any position. At the same time the face had rather a more natural expression, and she could separate the teeth about half an inch. Her power over the arms was also greater, and she could even move the head a little to one side.

Such was her state at the end of the ten days during which she had no Calabar bean. It seemed to me that the tetanus had received a decided check from the large doses of the bean taken on the 24th of November, and that it had never since assumed its former severity. Still there had been little further progress made towards a cure since the bean was stopped. I therefore recommended it in the form of tincture, made after the receipt of Dr. Fraser (*Edin. Med. Journal*, vol. ix., p. 124), who considers five minims to be equal to three grains of the kernel.

Dec. 6th.—I ordered the patient to have a dose of five minims of the above tincture every two hours, stopping the cannabis indica.

10th.—Last night, without any aperient medicine having been given to her, patient had five large watery evacuations from the bowels. This was the more remarkable because she had previously required a strong dose of castor oil, often fortified with croton oil, to move the bowels, and except from the effect of such medicine, they had always remained confined. I have little doubt, therefore, that this was another of the physiological actions of the bean—viz., catharsis.

It was noticed likewise to-day that her muscles generally were much more relaxed. The expression of the face was much more natural; she could laugh and open the mouth wider than she had yet done, and she could chew her food well. Her head and limbs, both superior and inferior, were likewise capable of being moved a little; but her back and abdomen still remained rigid, and the spasms, though very slight, were easily reproduced. The tincture was continued in the same dose, but only every six hours.

After this date her recovery was very rapid, and I find it noted in the journal on the 22d December that for some days previously the patient had been quite well, and running about the ward. No trace remained of her formidable illness, and from the above-mentioned day she took no more of the bean.

Digitized by Google

On the 4th of January, 1867, she was sent to the Convalescent Home at Bothwell.

Case 2.—A male, aged 13. Admitted on the 6th of December, 1866. The injury to which the tetanus was traced had occurred three weeks before, and on the evening of the 4th December the first spasm was experienced. During the course of treatment in this case five minims of the tincture of the bean (already referred to in Case 1) were given every two hours for the first two days; then the dose was changed to four drops every hour. This treatment, alternating the dose as the nature of the case required, was continued to the 24th. On the 18th patient had his last spasm. On the 4th of January he was discharged convalescent. In conclusion, the author says:

The effects of the bean were very remarkable, being chiefly seen in relaxation of most of the tetanically contracted muscles; indeed, in all of them but the muscles of the back, until far on in the treatment. *Then*, last of all, these gave way, but slowly, and as it were reluctantly. This was well seen in the boy's case, for his back was stiff for some days after he was able to be out of bed. The effect on the eye, too, was curious. Remembering the speedy and great contraction of the pupil which the bean produces when applied locally to the eye, one could not but be surprised at the slightness of its action on the pupil when given internally. Except when a very large dose was taken, as in the girl's case, the pupil was never contracted to a point. On the contrary, the contraction was very slight and very short-lived under the action of ordinary doses of the drug;* and one of the earliest symptoms of tolerance of it shown by the patient was the cessation of even this temporary effect upon the pupil—a tolerance which had to be met by an increase of the doses. Besides, I noticed that after the effect of the bean had passed away the pupil was found to be unnaturally dilated, as if from a sort of reaction of the fibres in an opposite direction.

As to the doses of the bean given in these cases, I must remark that those given in the girl's case were large—too large on that memorable day, the 24th of November, 1866. I have already explained how twice as much of the extract was given on that occasion as I had ordered; but I am certain that, though it brought the patient into danger, this large dose checked the disease, which abated from that day. It also affords us now an admirable proof of the power of the bean over this terrible disease, and of the great good to be expected from its more moderate and safe administration. It should be remembered, too, that in tetanus the patient seems to have a wonderful tolerance of many drugs, and that, therefore, larger doses of them than usual may be safely given, and, in fact, are required by such patients before the physiological effects of the medicines are developed. This is well known to be true of opium, cannabis indica, quinine, stimulants, &c. Now, I think that the Calabar bean is, in like manner, better borne in this disease than it would be in any other. It was taken and required all along, by the

* The action of the drug when applied to the eye is also very transient. This we have noticed frequently when using a strong solution to overcome the effects of atropia after examination with the ophthalmoscope.

Digitized by Google

girl especially, in much larger doses than I should prescribe in ordinary circumstances. The rule which I should give to others, and the one on which I mean to act myself, is to begin with a small dose, and rather to diminish the intervals than to increase the strength of the dose, till we become better acquainted with this powerful agent.

Yet, after all, this is one of those drugs which can only be rightly given in cases constantly under good watching; for its physiological action must be produced else no good result can be expected from it, and to do so a *sufficient* dose must be given. I know of no general rule that can apply in such a case, but the one of beginning with small doses and increasing them cautiously as effects are or are not produced adequate to counteract the violence of the disease under treatment. I shall only add, in conclusion, that I greatly prefer the fluid form of administering the bean, as giving less probability of its accumulating in the stomach, which might occur if it were given in the solid form—as, for example, in pills repeated very frquently. The tincture, if well made as directed by Dr. Frasier, is certainly the best and safest form in which it can be administered; and five minims of such a tincture is quite a safe dose to commence with in the case of persons above ten or twelve years of age, as far as my experience goes.—*Lancet.*

Treatment of Ununited Fracture.

In the Boston Medical and Surgical Journal of May 16th, 1867, Mr. Richard H. Derby gives an abstract of a clinical lecture, delivered by Dr. Henry J. Bigelow, Professor of Surgery in the Medical Department of Harvard University, upon the treatment of ununited fracture upon a somewhat novel method, (sufficient periosteum being retained to entirely cover the bones co-adapted and held firmly together by wires,) based upon the results of certain experiments of M. Ollier on the osteo-plastic function of the periosteum. Eleven cases are cited, ten of which proved successful, one having failed, the author thinks, on account of pre-existing disease of the bones. The description of the operation and apparatus and the remarks upon the subject are interesting; we therefore quote them entire, omitting, for want of space, the report of cases.

The extremities of the false joint are to be attacked where they approach nearest to the surface, unless vascular or nervous trunks are in the way; in the arm, in all cases I have seen, upon the outside; a free incision being contrived in each case with especial reference to the free exit of pus. In the arm, the musculo-spiral nerve, which is often displaced and tied by the lymph, is to be carefully looked for and avoided, and were it not for the care here requisite the bone might be exposed by a single incision. The principal bony extremities being found, the interval, which is sometimes quite irregular and interlocked, is gradually divided, and the ends turned out, the dissection being materially aided

by an assistant who powerfully flexes the false joint. As it yields, care is taken to prevent the muscles from being stripped from the periosteum, which they adhere to and aid in nourishing. When one extremity is fairly exposed, a crucial or other regular incision is to be made in the ragged callus which overlies the periosteum at its tip, which should be then seized by strong-toothed forceps and efforts made to tear it out of the rugous inequalities of the formerly inflamed bone. After a little delay and dissection, the flaps begin to yield; with some coaxing, the terminal adhesions are detached, and the sound bony shaft is reached, where the periosteum is only too easily stripped from the bone, requiring great care lest the shaft should be denuded higher than the intended section. The soft tissues being now protected by spatulæ, or flexible strips of copper, the end of the shaft is removed by a common saw, the length of this fragment being determined by the amount of periosteum it has been necessary to detach. A half an inch of good cylindrical periosteum, with half an inch more of ragged tissue hanging at its extremity, has usually covered from three quarters to an inch and a half of bone. Perhaps half an inch of sound shaft, with an irregular or conical extremity varying in extent, is a good rule for the excised piece in most cases. The other extremity is now to be turned out and treated in the same way, and this terminates the dissection, leaving only the wire to be inserted. For this purpose holes are bored in each extremity with a good bone drill, larger than the wire, at a little more than half an inch from the end, and through one wall only. A pure silver or plated copper wire is inserted from without inwards in one end, and inversely entered in the medulla from within outward in the other; the size of the wire ordinarily used is No. 10 of Stubbs's iron wire gauge. The ends are brought together accurately, and the wire twisted long enough to protrude at the external wound. The incision is then brought together by sutures, leaving an abundant exit for pus, and the apparatus is applied.

Apparatus.—The best apparatus for the humerus I have found, on the whole, to consist of a firm concave splint of iron and leather, made to fit the top and outside of the shoulder as low as the axilla, and thence horizontally to the neck, and secured by a strap around the opposite axilla; a similar gutter to receive the elbow and forearm flexed at a right angle; and the two united by a narrow iron strop on the back, and another on the front of the humerus, adjustable as to its length. The splint can be thus shortened when in place, so as to keep the extremities of the bone in contact, and nearly immovable, in spite of the great leverage of the arm upon the wire, while the dressings can be readily applied in the open interval, without disturbing the apparatus.

For the thigh, a pasteboard splint may be moulded to the anterior aspect of the thigh and leg, and then stiffened with dextrine, an interval for the wound being left. The whole limb is then secured to this by bandage; and surmounting the whole, a Smith's anterior splint is applied, by which the leg is suspended from a railway on a framework over the bed.

I have usually employed water-dressings at first, and poultices or oakum to absorb the discharge afterwards. The patient has remained in bed for several weeks, and in fact till some stiffening has taken place, after which fresh air has been enjoined as an invigorating and osteoplas-

Digitized by Google

tic agent. The diet has been as generous as the appetite would bear, and the phosphates have been generally administered, upon the principle of giving egg shells to hens.

The wire has remained in place until the bone was firmly united, generally during several months, and there has been in no case evidence of any ill effects from its presence, either in producing necrosis or undue inflammation. In fact, it has, in some cases, remained quietly in place after the arm was in use, and before the patient returned for its removal. In Case II. the wire remained for two years.

To remove the wire, the loop is best divided with cutting pliers, and forcibly drawn out; hence an advantage in flexible wire. This loop is sometimes quite superficial, but in other cases is so deep as to require an incision to reach it.

It may be remarked that a partial stiffening, dependent on the inflammation of the soft parts, may take place in a few weeks, but the bone afterwards becomes gradually loose if the periosteum fails to do its duty.

The one great point to be observed in treatment is the prevention of abscess, or, in other words, the early and free evacuation of imprisoned pus, by large and dependent incisions, which here as elsewhere are incomparably less injurious to the tissues than the burrowing of pus. Again, the formation of an abscess is always attended with fever, which destroys appetite and weakens the patient. Hence especial care is needed to detect any inflammatory induration supervening after suppuration has begun, and the first decided pointing should be the sign for an opening, to be explored by the finger, and enlarged inside or outside accordingly. I need not say that it is, in general, cruel to use the knife without an anæsthetic, but here the careful exploration and the tearing of the adjoining sinuses with the finger, if adequately done, absolutely demands it, for the comfort of both surgeon and patient. After a long experience, I have never seen a patient, unless already moribund, really worse for ether, and I have often seen a weak person prostrated by the excitement and suffering of an operation, when it was withheld by the timidity or haste of the surgeon. As for freezing, it is sometimes more convenient for short and superficial incisions, and in private practice, but when its novelty is gone it will yield in other cases to general anæsthesia.

In operating upon the humerus, the musculo-spiral nerve demands especial consideration. Winding around the outside of the arm near the usual place of incision, it is sometimes difficult to avoid it, especially when displaced by the deformity, and tied into an indurated mass of lymph. I have twice accidentally divided it, in spite of more than ordinary care; once completely, and once leaving only a single fibre at one side. In one case, an operation had been undertaken one month only after a previous one, while the arm was still inflamed. It was on that account absolutely impossible to keep the wound dry, and after a protracted dissection the knife was at last used beneath the blood; the nerve was imprisoned and concealed in a deep groove in the new bone, and was divided in separating the bones. On this ground, I should not advise a second operation until the traces of active inflammation from a previous one had disappeared. In this instance the neurilemma was re-united by a small suture. In both cases, the power of the paralyzed extensors ultimately returned, completely and unequivocally. In an-

Digitized by Google

other case, now under treatment, partial paralysis ensued after the operation, but the nerve had been no where seen, and could hardly have been divided. On the other hand, the fragments were so short that a powerful and continued effort had been required to make their ends protrude, jamming the muscles in their interval, and very likely thus injuring the nerve. The fingers are now regaining their motion. In the same case, which was one of gun-shot wound, the operation twice failed, there being still some necrosis about the bone, of which the lower fragment was enlarged to at least double its diameter. In a future case, I should consider that necrosis contra-indicated the operation, if there were any good chance of getting rid of it by time or interference.

The case most favorable for operation is undoubtedly that of a healthy subject, where the bony extremities are of natural size. In a case of long standing atrophy tapers the bones, which need in consequence longer excision. Other things being equal, it is better not to wait unnecessarily.

The only case I have encountered of ultimate failure, was one of extreme softening of the bone by interstitial absorption, a condition which was not ameliorated by invigorating measures, including the free and protracted use of the phosphates.

Treatment of Pertussis.

From the reports of the treatment of this disease in four large London hospitals, published in the London Lancet of April 23, 1867, we derive the following conclusions, the more valuable as the experiences of all the surgeons of these hospitals coincide in the most important particulars. The majority of the cases treated were first seen when the disease had already existed for from one to three weeks, and was generally complicated, more or less, with bronchial catarrh. Nearly all the remedies vaunted as specifics were tried faithfully without establishing their efficacy, having been found not to exert any great power upon the disease, either by cutting it short or rendering the attack milder. Antimonials, mercurials and other antiphlogistics were found to exert a decidedly *unfavorable* influence, while, on the other hand, especially in debilitated children, quinine and ether were found to be productive of marked benefit. The bromides of potassium and ammonium were found to be useful in those cases in which the paroxysms were frequent, and also in those in which the symptoms indicated nervous complications, such as convulsions, muscular contractions, night tremors, etc., etc. Small doses of hydrocyanic acid were generally found possessed of a calmative effect, and seemed to be more efficacious than any other internal remedy. Counter irritation (the linimentum chloroformi being chiefly used, applied by rubbing upon the back and chest night and morning) proved of as much if not of more value than any other method of treatment. Small doses of morphia were used by Dr. Gervis, of the London Hospital, frequently in cases of convulsion, and always with

Digitized by Google

marked benefit, allaying both the pulmonary and cerebral disturbance. Complications of pneumonia and pleuritis were treated entirely by nourishing diet and stimulants. Chloroform by inhalation was found often to relieve the paroxysm of coughing.

On the Etiology of Stricture of the Urethra: By HENRY VEALE, M. D., Royal Artillery.

AMONGST the several causes which have been assigned for the production of stricture of the urethra, it is almost universally held that gonorrhœa is the chief. This doctrine has been so long current, and has obtained such an ascendancy over our minds, that it may perhaps at first be difficult to see any reason for calling it in question. Whatever may be our conclusion, however, the meaning to be attached to the term gonorrhœa must be defined before we proceed to examine the grounds upon which the doctrine is based.

Until between 30 and 40 years ago, gonorrhœa in the male signified any puriform discharge from the urethra, but when it was discovered that syphilitic ulcers might exist in the urethra, and occasion a purulent discharge, a limitation of the term became unavoidable; and thus, what most medical men now understand by it is, specific inflammation of the mucous membrane of the urethra, attended with a purulent discharge, caused by, and capable of reproducing a similar disease, but not giving rise to a solution of continuity in the affected membrane. Notwithstanding, however, that this limitation of the term has been accepted, many traces of its original vagueness of meaning still remain; consequently, we may observe that, although gonorrhœa is acknowledged to be a specific disease in its acute stage, the distinction is not always kept in view with respect to the chronic discharge from the urethra. A man is still often said to have a gonorrhœal discharge, or a gleet, when he suffers from an urethral flux of long standing, no matter how it may have originated, or by what causes it may be maintained. This source of ambiguity I shall endeavour to avoid, by employing the term gonorrhœa only in the sense which I have defined above.

What proof is there, then, that gonorrhœa is the principal cause of stricture of the urethra? In most of the works on the subject which I have had an opportunity of consulting, it seems to have been taken for granted that proof of the assertion was not required. Yet no one, so far as I know, has ever traced a gonorrhœa, step by step, until it produces a stricture; and most authorities acknowledge that there is no perceptible connexion between the intensity of the inflammation in gonorrhœa, and the liability to stricture. What is most frequently asserted is, that long-standing gonorrhœas are likely to give rise to the latter condition. Now, it may be readily admitted that nearly every man affected with stricture will answer in the affirmative if asked whether he had previously suffered from gonorrhœa; but such an admission is not sufficient for the inference that gonorrhœa is a frequent cause of the subse-

Digitized by Google

quent ailment. Its antecedence is not shown to be unconditional. The day invariably precedes the night; but we do not, therefore, suppose the day to cause the night. Something more, then, than frequency of succession is required to prove the dependence of stricture upon gonorrhœa.

We should be often misguided if we trusted to the statements of the patients themselves on such matters, for most of them employ very loosely such terms as a "running," a "clap," and etc.; and there are hardly two men to be found who will ascribe the same importance to disorders apparently exactly similar. What the one will regard as a merely trifling irritation, scarcely deserving a moment's notice, another will believe to be a sure cause of all the ills described in certain quack advertisements.

Nevertheless, there is a relation between the condition called a gleet and that of stricture; and it appears to me that this relation is one, not of cause and effect, but of conjoint effects,—either of the same, or of separate causes. The assumption that every chronic discharge succeeding an acute gonorrhœa is the true pathological sequel of this disease, would neither be warranted by theory nor established by observation. On the contrary, I think it will be found on inquiry that nearly all such chronic discharges have some other cause for their maintenance than that which originated them. Either in the part itself, or in the constitutional condition of the patient, there will almost always be discovered something, if it be sought for, which can be recognized as the condition which perpetuates the morbid action.

However much we may reason concerning a question of this nature, we must always refer to direct observation of facts if we wish to test the soundness of our conclusions. It will be understood that I do not assert that a gonorrhœa may not act as a cause of stricture, but that it frequently produces this condition is not at all confirmed by my observation. During the last eight years, with such opportunities as fall to the lot of an army medical officer, I have searched in vain for a case in which I could safely infer that a gonorrhœa, *pur et simple*, had given rise to a permanent or organic stricture. My attention was first particularly directed to the subject in 1858, by seeing a case in which a discharge from the urethra had been produced by an indurated syphilitic ulcer at the orifice. In course of time the ulcer healed, and the discharge ceased; but an induration followed soon after, about an inch further down the canal. So long as the patient lived quietly he had no urethral discharge, but his habits were very irregular, and as often as he indulged his propensities to sexual and other excesses, the discharge recurred. In 1859 and 1860, I saw him frequently again, and he then had a very tight stricture about an inch from the orifice, and two others, of less severity, between this spot and the prostate, which he informed me, had commenced exactly like the first. At this time he was almost never free from urethral discharge. He could never deviate from the paths of chastity without, as he thought, contracting a fresh gonorrhœa; and I must confess that at first I also was inclined to attribute the discharge to successive infections. A more attentive consideration of the circumstances, however, convinced me that this was not a case of repeated gonorrhœa, but of urethritis, predisposed to by the presence of syphilitic deposits along the canal, and excited by over-exertion or irritation of the organ; and the dependence of the strictures upon the syphilitic disorder seemed to be sufficiently clear. I have since that time seen both primary and second-

Digitized by Google

ary syphilitic sores at the orifice of the urethra to be followed directly by stricture in the same locality, and I not long ago witnessed a case in which an induration of the submucous tissue gradually crept from the site of an old primary sore at the orifice, to nearly an inch and a-half down the canal, causing a very decided stricture, but, curiously enough, being exactly limited to the right side. In this instance, also, a puriform discharge frequently came on after sexual intercourse, and had been mistaken for gonorrhœa.

The narration of cases is, unfortunately, seldom sufficient proof of the correctness of an opinion. We so rarely see what we do not look for, and are so apt, on the other hand, to see exactly what we desire, that a theory having been once formed, or a doctrine espoused, we seldom fail to furnish ourselves with "facts" to support it. Such being the measure usually accorded in the world, I shall abstain from giving a detail of the cases which have satisfied me that syphilis is a more frequent cause than gonorrhœa of urethral stricture. I imagine that most surgeons in venereal hospitals have seen strictures produced by both primary and secondary syphilitic lesions, and I think it is reasonable to infer that what we see to take place at one spot, may also occur at another, where the tissues are almost exactly similar. A stricture at the orifice is, however, very easily cured, which is scarcely to be wondered at when we consider the early period at which the appropriate local treatment is then had recourse to, the greater facility and certainty with which it is applied, and the fact that, for such a case, constitutional as well as local treatment would almost always be adopted. Why it is that syphilis manifests itself more in certain parts of the body than in others it is for the present impossible to explain, but we are acquainted with the general law that parts which are not the ordinary channels for the elimination of a morbid poison, are liable to be affected by it with extraordinary severity, if the functional activity be so unduly exercised as to lead to an impairment of their powers of nutrition. In conformity with this law, we may consider that sexual excesses, a gonorrhœa, or any such direct violence as the bruising of the perineum upon the pommel of a saddle, in a man affected with constitutional syphilis induce the peculiar malnutrition which is found in certain strictures.

By analogy, also, we might be led to regard syphilis as a cause of urethral stricture, for in the cachectic state which that disease produces, it is not uncommon to find stricture of the lachrymal canaliculus, of the Eustachian tube, or even of the rectum.

From the foregoing remarks it will be seen that I not only regard syphilis to be common cause of stricture of the urethra, but that I also believe it to be a frequent cause of persistent puriform discharge from that canal. Certain other cachectic conditions, however, have a similar tendency. These are principally the rheumatic, the gouty, the scrofulous, and the scorbutic; but, so far as my observation goes, their influence is much more decided in prolonging the urethral flux than in giving rise to stricture.

If the opinions which I have expressed be accepted as correct, their importance in a therapeutical point of view will not be denied. A gonorrhœa, if not aggravated by injudicious food, exercise, or general management, will nearly always terminate spontaneously in a few weeks, under the influence of rest alone. When, however, the discharge persists

Digitized by Google

beyond this period, we may be sure that there is some definite cause, either local or general, acting as an impediment to recovery. By appropriate treatment, the duration of a gonorrhœa admits of being abbreviated, as I shall show. Some years since, I treated a considerable number of cases with full doses, either of copaiba or cubed pepper; and although, in the majority, the result was satisfactory, in other instances these drugs proved either inert or injurious. Consequently, for the last six years, I have only employed them when I have been unable to put in practice the more certain remedies, of which the application of blisters to the groin below Poupart's ligament is one. This mode of treatment was first suggested to me by my friend Mr. Park, of the Royal Artillery, to whom belongs the merit of having systematized it, and communicated the plan to his colleagues. Dr. H. C. Miles has since made public the results which he has witnessed from it, and I may add my testimony that, for soldiers and others similarly circumstanced, it will be found a most speedy and effectual one. In private life, patients will rarely submit to be treated in this way, because it necessitates the recumbent posture, and would thus interfere too much with their avocations. Nevertheless, circumstances occasionally transpire when the method may be had recourse to with advantage. I have known a man, for instance, to contract a gonorrhœa a week or two before the period appointed for his marriage, and to have been so successfully treated by the blister as to be enabled to fulfill his engagement, if not with a clear conscience, at least with a clear bill of health. But the application of a blister to the groin is not without its dangers. I have seen it on more than one occasion to be followed by considerable sloughing of the integuments, and I therefore never allow the blister to remain in contact with the skin for more than four hours whenever I now employ it. After its removal, a poultice is applied, and the parts is afterwards dressed in the ordinary way. This practice is perfectly satisfactory, and will often cure the patient in three or four days.

Under ordinary circumstances, however, no treatment is so simple and effectual as that by injection. Two grains of sulphate of zinc to the ounce of water is one of the best injections, and it should be used from three to six times in twenty-four hours, or oftener, if the symptoms are very severe. The injections should be begun at the earliest possible period, and the recumbent posture be maintained as much as circumstances will allow. In a series of observations, I found the average duration of the cases under this treatment to be nine days. The results which I have seen from blistering the penis itself, and injecting very strong solutions of nitrate of silver, etc., are such that I should not consider it wise, under any circumstances, to repeat either practice; and I may also remark, *en passant*, that, since I have relinquished the use of cubeds and copaiba, I have never met with a case of gonorrhœal rheumatism, as it is called.

Whenever a gonorrhœa is prolonged beyond the ordinary period, the condition of the urethra ought to be carefully examined, along its whole length, both by external manipulation, and by the passage of a bougie. The slightest nodule of induration, or the least diminution of the elasticity of the canal, should receive the most attentive consideration, for it is chiefly by these indications that we can infer the tendency to the formation of stricture. Should a syphilitic diathesis co-exist, the nature

Digitized by Google

of the case will be tolerably clear; but it will be a matter of difficulty oftentimes to determine the right method of treatment. Mercury and iodide of potassium, as is well known, irritate the urethra so much that, for a time at least, their internal use would aggravate the symptoms; but mercurial inunction, or the vapour bath, do not act so prejudicially, and these appear to me to be the best remedies to employ when the constitutional condition is such as to offer no impediment to their use. The efficacy of purely mechanical means for the cure of stricture has, I think, been too much insisted on during the present century. For affording immediate and temporary relief, I am willing to concede to them all that can be demanded, but I am convinced that in strictures caused by, or complicated with, a syphilitic deposit, mere dilatation is not sufficient. It will not restore the canal to its original elasticity, and we ought not to consider the cure to be complete until this has been effected.—*Edinburgh Medical Journal.*

Surgeon's Reel and Artery Forceps: By JOHN T. HODGEN, M. D., Prof. Physiology in St. Louis Medical College.

THE Reel consists of a hollow India rubber ball, one and a fourth (1¼) inches in diameter, divided in half its circumference, and having an elastic band passed through the edges of the cut, and so large as to slip over the hand and fit the wrist. The surgeon's silk, previously waxed and wound into a ball, or on a small spool, is put inside the ball, leaving the end hanging out two or three inches. When thus prepared, the elastic loop is placed about the left wrist of the operator. The ligature may be drawn out and used when required.

The forceps—the ordinary duck-billed—having a large knob weighing one ounce on the end of the handle to give them the weight required to stretch an artery sufficiently to allow a ligature to easily embrace it; an oblique notch in the right hand side of the upper blade three-fourths of an inch from the point and one-fourth of an inch deep, bended downwards and towards the handle, so as to present a cutting edge forwards; a piece continued forward from the thumb slide, having a notch corresponding to that in the blade of the forceps, except that its cutting edge is presented backward. When pushed forward these notches are opposite each other; when the slide is drawn backwards the notches do not correspond. A little hook, directed backwards from the angle formed by the notch and the side of the upper blade, enables the ligature to be readily thrown into the notch. The slide and the upper blade thus constructed, act in cutting the thread like a scissors.

MANNER OF USING.

The reel being on the left wrist, an artery is seized with the forceps; the slide pushed forward, thus securing the hold, and bringing the notches in the slide and upper blade opposite each other; the forceps are thus dropped by the weight, drawing the artery from the soft parts; the ligature is taken in the right hand and drawn out of the reel to the re-

Digitized by Google

quired length, and thrown round the forceps drawn up to the point; a knot is made and tightened upon the artery; the attached end of the ligature is drawn through the notch; the slide is then drawn back, and this act both cuts the thread and releases the artery, and we are ready to repeat the process until all the bleeding vessels are secured.—*Saint Louis Medical and Surgical Journal.*

MEDICAL.

Case of Hypertrophy of the Spleen: By W. Boyd Mushet, M.B., M. R.C.P., Physician to the North London Hospital for Consumption.

Emily C., aged 8½ years, was brought to the North London Consumption Hospital on June 7, 1866. She was born and lived at Hammersmith, near the West Middlesex Waterworks, close to the river. The child appeared to be tolerably well in health, with color in cheeks. She was thin, but not emaciated. There was great enlargement of the abdomen, which had been noticed to increase gradually during the last twelve months. It was repeated that one medical man stated the liver was enlarged, and another that she suffered from worms. Her appetite was good, not ravenous, and she was not molested by vomiting or diarrhœa. The health of the family was affirmed to be good, but all its members were attacked by "gastric" fever four or five years since.

On examination, an irregularly ovoid, movable tumor was discernible in the abdomen by palpation. It was perfectly smooth on the surface, and extended from the left flank, near the spine, to two inches beyond the umbilicus anteriorly. Above it stretched to the margin of the ribs, and below almost to Poupart's ligament of the same side. It was hard, solid, resistent, and painless on rough manipulation, absolutely dull on percussion, and had a well-defined notch at its anterior border, about the middle. There was no history of ague or of exposure to malaria. The child had a slight fall about twelve months ago, but she told me she fell upon her head, and she did not appear at that time to have been much hurt.

Measured at a latter period (October 11), the tumor, which was evidently the spleen, was found to be eleven inches in its transverse, nine in its greatest vertical, diameter. From June to October 11 the patient was ordered quinine and bromide of potassium, with ointment of biniodide of mercury (gr. xvj. to ℥j. to be nightly rubbed on the abdomen. From October 11 to November 8 the medicine was changed for ♏x. of the tincture of iron twice a day. At the latter date the tumor had slowly, but manifestly, increased across the abdomen, which had become more prominent. I was informed that she was not so well under the steel, so the quinine and bromide were resumed.

At this time a few drops of blood were kindly examined microscopically by Alexander Bruce, M.B., M.C., F.R.C.S., Sub-curator of the Museum of University College. These were discovered to be so abundantly charged with white corpuscles that this gentleman declared the blood to be as highly leucocythæmic as any he had ever seen.

Digitized by Google

On January 16, 1867, the little patient was suddenly attacked with vomiting—first of watery colorless fluid, next of yellowish matter, followed by "masses like bruised liver," in all about a pint. A medical man in the neighbourhood ordered beef-tea and brandy-and-water.

On the 18th I visited her, and found her, pale, anxious, and much prostrated. Pulse above 120; respiration hurried, but breath-sounds normal, with occasional cough; tongue clean; no pain over tumor; bowels had acted in the morning without melæna; occasional sickness best relieved by small doses of brandy-and-water; no œdema, but greater emaciation.

She died on the 22d from exhaustion, six days after the access of intercurrent symptoms.

The father, an intelligent man, readily permitted an examination of the abdomen and removal of the spleen eighty hours after death.

The face presented a very lifelike appearance, with slight color in cheeks. The body measured 3 feet 9 inches in length. The abdomen was much less distended than during life, and the spleen could be felt through the parietes to encroach much less across the middle line, especially at the superior half, as if the diseased organ had notably shrunk after death. After removal the spleen, carefully measured with a rule and callipers, was found to be 10 inches in length, 6½ inches in greatest width, and 3⅜ inches in greatest thickness. It weighed 3 lbs. 13 oz., or 61 oz. avoirdupois. It was smooth, with a notch anteriorly, before spoken of, and presented two grooves or sulci posteriorly at its upper part. The color was mottled, reddish brown, very much lighter than that of a normal spleen. There was a very slight, thin patch of old lymph near its superior edge, but it was not in any way adherent to the walls of the abdomen. On section, which was firm, the aspect was paler and browner than the surface, resembling hepatic tissue (nutmeg liver) to the eye. There was a slight caseous deposit, about the size of a pea, penetrating a short way into its substance, probably tubercular. The liver was very large and pale; it weighed 4 lbs. 11 oz., or 75 oz. The increase of size was mainly in the right lobe. Each kidney, also pale but apparently healthy, weighed about 4 oz. The stomach contained a little mucus; it was much congested, with unusual prominence of the larger veins.

The spleen was submitted to Mr. Bruce of University College for minute examination, and he favoured me with the following particulars, for which I am exceedingly indebted. I give them in his own words:—"The structure appears to be perfectly normal, consisting of a highly vascular fibrous stroma, which supports a pulpy matter—an albuminous fluid very rich in corpuscles of the blood. The Malpighian bodies appear less numerous and less prominent than in ordinary spleens, but this may be due to the increased density of the stricture, which prevents their appearing as prominently as usual. Their structure is normal. There are no elements present having an abnormal or morbid character."

Hence the case seems to have been one of simple hypertrophy of the organ, the cause of which must be regarded as obscure. Was the fever which affected the family in 1862 of an intermittent or remittent character, in consequence of the slight elevation of their dwelling and its proximity to the Thames? Mr. Spurgin, of Hammersmith, mentioned to me that although he does not meet with ague, many cases of fever in his

Digitized by Google

vicinity, according to his impression, assume a modified type, being marked by distinct exacerbations and remissions. But, on the other hand, the remainder of the family do not appear to be affected by similar enlargements. Before concluding, I should add that at various times the question of removal of the diseased mass was canvassed, but a consultation was unfortunately postponed, as the child did not present urgent symptoms, and suffered but little beyond the inconvenient weight of the tumor. I thought the father, whom I did not see untill near the close of the case, might imagine recovery to be not absolutely impossible without recourse to operation; and, as a decision on the point might not appear to him to be imperatively demanded, the operation, if acceded to and fatal, might be viewed as directly anticipating death. In this respect I misjudged him, as I found when too late.—*Medical Times and Gazette.*

Notes on Artificial Productions of Oxaluria: By Dyce Duckworth, M.D., Assistant-Physician to the Royal General Dispensary; Medical Tutor, St. Bartholomew's Hospital.

It is well known that certain articles of diet induce a temporary form of oxaluria. This fact has been most frequently observed after partaking of rhubarb; however, turnips, sorrel, and tomatoes likewise contain oxalic acid in various combinations within their tissues. In the case of rhubarb that has been softened by parboiling, octohedral crystals of oxalate of lime may be set free in water by simply teasing out the fibres.

Now, if the urine be examined within an hour or two after taking any of the above vegetables, abundant octohedral crystals are found suspended in it—that is, they exist in the bladder before emission, and are certainly not produced afterwards. It is the exception that any noteworthy symptoms are set up by this temporary oxaluria; sometimes, however, irritation is referred to some part of the course of the urethra. In these circumstances soluble oxalates soda, potassa, and ammonia, as well as insoluble oxalate of lime, are introduced into the circulation, and we need only conceive the occurrence of a simple transformation, founded on the predilection of oxalic acid for lime, to account for the oxaluria.

I desire, however, in this paper to direct attention to the results of some experiments which I performed at the suggestion of my friend, Dr. Arthur Leared. They were devised and carried out in the first instance by that gentleman, who laid the details of them before the Profession in an able lecture on oxaluria delivered in November, 1865, at the Royal Infirmary for Diseases of the Chest. Although these experiments have for their immediate object the artificial induction of oxaluria, yet they have an important bearing on the pathology of the confirmed or permanent form of oxaluria—a grave disease.

Dr. Leared is, I believe inclined to the view held by Beneke—that the important symptoms of severe oxaluria, as with those of so-called phosphaturia, are to be attributed more to the drain of lime from the

Digitized by Google

system than to the effects of excess of oxalic or phosphoric acids respectively. His experiments consisted in examining the morning urine of health after standing twenty-four hours, in order to prove the absence of oxalate of lime. At bedtime he took f.ʒiij. of aqua calcis. On examination of the urine passed the following morning he found an abundant deposition of oxalate of lime. On another occasion he took at bedtime, after carefully examining the urine as before, gr. iij of oxalic acid well diluted with distilled water. The examination of the morning urine next day, in this case, showed no evidence of oxalate of lime. Dr. Leared repeated both of these experiments several times, and always with the same results.

I likewise repeated them, and with the following slight modifications. After examining the morning urine that had stood for twenty-four hours, to satisfy myself of the absence of oxalates—I was taking a holiday on the Devonshire coast at the time—I took f.ʒiij. of aqua calcis at bedtime. In an hour afterwards I passed urine. This after standing eight hours, showed a characteristic mucoid deposit of oxalate of lime. In the morning urine of next day, only a small deposit of this occurred. I should mention that I employed the microscope on all occasions. I found the same result after taking f.ʒj. of aqua calcis in my own person, and also in the case of a strong healthy man. Thus far my results exactly confirmed those of Dr. Leared.

I next proceeded to observe the effects of oxalic acid. I made a dilute solution of gr. iij. in water, and took a third part of this at bedtime Feeling cramping pain in the stomach, I confess I did not like to finish the draught. In an hour I passed f. ʒij. of urine, and in this, after standing overnight, I found a characteristic mucoid deposit, and recognised myriads of octohedral crystals. On another occasion I took gr. j. of oxalic acid in f. ʒij of distilled water. Passed urine an hour afterwards. Result same as in last experiment, and I experienced no gastric uneasiness after taking the dose. It thus appeared that an artificial oxaluria could be produced by the respective ingestion of caustic lime and oxalic acid.

It will be seen that my results with the latter do not accord with those of Dr. Leared, and at present I am unable to account for the discrepancy. I simply put forth the facts, not, however, without some diffidence, since they do not tally with those obtained by so well-known an observer as Dr. Leared.

The results are certainly remarkable. Let it be remembered that aqua calcis contains only gr. ss. of caustic lime in the ounce, and that from this amount and from gr. j. of oxalic acid abundant depositions of oxalate of lime occurred in each case.

The experiments are well worthy of repetition, though it is hardly to be expected that many will volunteer assistance in partaking of oxalic acid.

In conclusion, I may remark that the result with lime water seems to favour the belief that oxalic acid is a natural constituent of the blood, and for experimental evidence on this latter point the Profession is indebted to the labours of Drs. Garrod and Parkes.—*Medical Times and Gazette.*

Digitized by Google

Clinical Lecture on Gouty Bronchitis: By E. HEADLAM GREENHOW, M.D., Fellow of the Royal College of Physicians, Assistant-Physician to the Middlesex Hospital, etc.

* * * I now therefore, propose to enter on the consideration of secondary bronchitis; but, as it would be manifestly impossible to comprise in one lecture even the most superficial notice of the various ailments and constitutional tendencies of which bronchitis is a secondary result, I desire to-day to concentrate your attention more particularly upon the relations between chronic bronchitis and the gouty dyscrasia, as shown in the remarkable fact, elicited by my analysis, that in thirty-four, or more than one-third, of our ninety-six cases of bronchitis, a distinct gouty history attached either to the patients themselves or to some other members of their families.

A more minute investigation of the facts bearing on this subject will now, however, be desirable. First, then, as regards the patients themselves, I find that no less than fourteen were subject to attacks of acute regular gout as well as to bronchitis, and that in nine of these cases gout co-existed with the bronchitis while the patients were under my care. Eleven others had suffered from chronic gout attended by the formation of chalk-stones, or from what has been called rheumatic gout. I am indeed aware that some of our most eminent authorities consider regular gout and rheumatic gout as entirely different complaints; but I have so frequently seen rheumatic gout in persons some of whose immediate relatives suffered from regular gout, that I have no hesitation in regarding them as at least closely allied diseases. In the cases of nine other patients who had not themselves shown any symptoms of gout, it was ascertained that near relatives, such as parents, brothers, or sisters, had suffered from that disease; and this number, probably, by no means represents the true proportion of such cases, for, as you will remember, the family history could not be made out in much more than half the ninety-six cases analyzed. These three numbers, however, fourteen, eleven, and nine, make up the thirty-four cases which I mentioned as showing the intimate relation between a gouty constitution and chronic bronchitis. The evidence on this head is, I think, strengthened by the fact that, in many instances, while some members of the patients' families had gout, others had bronchitis, and others again suffered from both complaints. Confining myself strictly to those cases in which there had been acute regular gout, I clearly ascertained the existence of both gout and bronchitis in ten of my patients' families. Thus in one instance two near blood relatives of the patient were subject to gout, and one other as well as the patient to bronchitis; in another case, three were subject to gout, and one to bronchitis; in a third family, one member had suffered from gout, and five from bronchitis; and in a fourth, two from gout, and three from bronchitis. In five other of the ten families, at least one member had suffered from both gout and bronchitis; the patient under my care being, of course, in all cases excluded from the reckoning, and no two of the cases included in my analysis having been members of the same family.

It is, indeed, true that the gouty form of dyscrasia is exceedingly common, not only among private patients, but also among the working classes, and especially among the artisans of London, who frequent our hospital out-patient rooms. But, common as it is, gout constitutes, even when the regular, the irregular, and the complicated forms are all thrown

into the calculation, a very much smaller proportion of the total number of our hospital patients than it does of the bronchitic class only. Hence I think myself justified in the conclusion, to which personal observation has also led me, that there really is the intimate relation between a gouty constitution and chronic bronchitis which I have frequently taught you, and that in many cases in which, from active and temperate habits or from some other cause, a hereditary tendency to gout has not been developed into the characteristic form of that disease, it has manifested itself in the form of chronic bronchitis.

In further support of these views, I may mention that I have frequently known bronchitis and gout alternate; an obstinate attack of bronchitis subsiding on the occurrence of a smart fit of gout, and, though less frequently, *vice versâ*—bronchitis being developed on the subsidence of gout. I well recollect a striking example of this alternation in the case of an elderly man who was long under my care. His ailments were gout, psoriasis, and bronchitis, and he was rarely or never free from all of them. No two of the three ailments ever co-existed in his case; but it would happen that just as he was congratulating himself on having got rid of the gout, his skin would become covered with psoriasis, and this in a few weeks would take its departure, and be succeeded by an attack of bronchitis.

I have dwelt at considerable length upon this, as I am convinced, very frequent constitutional origin of bronchitis, because its recognition affords the clue to the successful treatment of the disease in many cases; and although it has been mentioned in express terms by Sir Henry Holland and several other eminent physicians, it has never, I think, been so prominently or specifically brought forward as to secure for it in ordinary medical practice the attention its importance deserves. I shall now proceed further to illustrate my remarks on this subject by reading to you several instructive cases, which I have selected from among the number included in my analysis, and which may fairly be classed under the head of gouty bronchitis.

The first case is that of a man who was only a short time under observation, and whose family history I could not obtain; but I have chosen it as affording a more than usually obvious illustration of the relation between gout and bronchitis in an individual patient. In the greater number of cases the secondary character of bronchitis is to be inferred rather from the history of the case or of the patient's family than from present facts patent to the observer; and I have endeavoured to make the relation between gout and bronchitis apparent to you, chiefly, by showing the very large proportion of bronchitic patients in whom, or in whose families, I have found a more or less definite history of gout. In many cases, no doubt, the gouty dyscrasia only produces a strong predisposition to bronchitis, and the disease is first developed by some external exciting cause, though frequently by a much slighter one than would be likely to produce the same effect in a healthy subject. In other cases, again, we find in gouty constitutions a certain degree of chronic bronchital irritation manifested by more or less constant scanty expectoration, which either merges slowly and almost imperceptibly, as life advances, into chronic bronchitis, or is more rapidly developed into it by exposure to vicissitudes of temperature or other immediate exciting causes. In the case I am about to relate, however, the patient had

Digitized by Google

not only himself suffered from definite attacks of both gout and bronchitis, but he did not refer his bronchial symptoms to any exposure, and considered them merely as the sequelæ of his gouty attacks, which they immediately followed and appeared to supersede. This, in fact, occurred, as the following brief history will show, on occasion of the attack for which he came under my care:

H. T——, aged forty-eight, a pallid, sallow-complexioned man, by occupation a tailor, was admitted an out-patient on the 12th of January, 1866. He stated that he had for several years suffered from occasional attacks of regular gout, always commencing in the ball of the great toe. After the gout he had also been subject to what he called asthmatical attacks, and during the previous winter had suffered for some time from cough. Somewhat more than a fortnight before presenting himself at the hospital he had been attacked by gouty pains in the knee, foot, and left elbow, accompanied by severe headache. In the course of a few days, these pains had entirely subsided, except in the elbow, and simultaneously with their disappearance he had began to suffer from cough and dyspnœa.

On admission, he complained much of the dyspnœa, especially on first rising in the morning and on moving about, and said that the cough was attended by a copious, thick, white expectoration. The left elbow was still hot, swollen, and tender; the skin was moderately warm; pulse 90; urine normal; the chest was everywhere resonant on percussion, indeed abnormally clear in both mammary regions, and posteriorly over the lower lobe of the left lung; the respiration was slightly laborious; the expiration prolonged, and loud cooing sounds were audible over both lungs; the cardiac sounds were free from murmur, but the area of cardiac dullness was increased, and the heart's impulse was more diffused than in the state of health. I gave the patient at first the compound squill draught during the day, and a pill consisting of two grains of the acetic extract of colchicum and three of Dover's Powder each night at bed time. Under this treatment he rapidly improved; the gouty symptoms in the elbow disappeared almost immediately, and the cough and expectoration soon greatly abated. He still, however, suffered from dyspnœa, and, as there is emphysema in both lungs, he will probably continue to do so more or less as long as he lives.

Alfred B——, aged forty-nine, painter, became an out-patient under my care Nov. 3d, 1865. He was a tall stout man, with a broad capacious chest. His family history showed a strong tendency to bronchial affections, and also a gouty taint; his father, mother, and brother having died, he said, of asthma, which evidently meant chronic bronchitis and its consequences; whilst two living brothers suffered from the same disease, and another from gout. He himself had frequently had gout, most commonly in the knees, but also in the toes, wrists, and elbows. Said he was a moderate man, drinking only beer to the amount of two or three pints a day. Had been subject to chronic cough in winter for seven or eight years, and was very liable to take cold even in summer, but did not attribute his ailments to any special exposure.

On admission he was suffering from dyspnœa and cough, attended by a scanty, thick, white expectoration. His face was puffy, tongue fairly clean, pulse 90. The chest rose evenly in respiration, and was equally and normally resonant on percussion on the two sides. The respiration

Digitized by Google

was slightly laborious. The breath-sounds were normal over the upper and anterior part of both lungs, but mucous crepitation was audible in the lowest part of the right lung. Posteriorly, the percussion resonance was perfectly normal over the base of both lungs; but cooing rhonchus, intermixed with moist crepitation, was heard from the base upwards as high as the angle of the scapula on both sides. The heart sounds were normal in character and position. The urine was high-coloured; acid, and contained no albumen. I prescribed the compound squill draught of our hospital Pharmacopœia, with twenty minims of tincture of henbane, to be taken every six hours; and a pill for night, containing one grain each of blue pill and ipecacuanha powder, with three grains of powdered rhubarb.

At the end of a week he was very much better, and the report in the Case-book on Nov. 14th is that the cough was much diminished and the expectoration had become more scanty. The chest was everywhere normally resonant on percussion; and the breath-sounds were normal, with the exception of slight sibilus and scanty mucous clicking in the base of both lungs. But at this time gouty symptoms were making their appearance, and in a few days a regular fit of gout came on, during which the cough entirely disappeared.

This is, in brief, the history of a mild case of gouty bronchitis, in which the bronchial affection was evidently relieved by the occurrence of the gouty paroxysm. The case was comparatively so slight a one, and the patient when he first came under my care was so entirely free from any gouty symptoms, that I did not then deem it necessary to resort to any specific treatment for the constitutional taint. I have therefore read it to you, not with reference to that branch of the subject, but merely as another illustration of the intimate relation between gout and chronic bronchitis, shown in this case not only by the alternation of the two diseases in the individual patient, but also by the appearance of one or other of them in so many other members of the same family.—*Lancet.*

On the Value of Tartar Emetic in Compression of the Brain, and in Controlling Convulsions and Maniacal Excitement Dependent Thereon: By HUGH CROSKERY, L. R. C. S. I.

G. H., a young white Creole gentleman, had been suffering for some days from languor and pain in the right hypochondrium. On Thursday morning, the 31st of October, 1861, he left his bedroom, about six o'clock, in his usual good health and spirits, and partook of the accustomed Jamaica dish—a cup of good coffee—usually served at that hour of the morning. He went out for a stroll, and was seen to walk with a steady and buoyant gait. An hour afterwards he was found, about five hundred yards from the house, in a fainting state, and with his body lying on the pathway leading through a pasture on the hillside. Being in the house at the time, I was called to him at once, and

Digitized by Google

found him with contracted pupils, a feeble pulse, a cold, pale skin, and completely unconscious. He was lying where a short time before, he had been discovered, with his body up and down the hill, and in such a position as—if coincident circumstances did not point to a different conclusion—to lead to the belief that he had either lain himself down to rest there, or that he had felt faint, and had fallen down at the spot where he had been found; his head rested on a place by no means hard, and his hat was found not far from his person.

When I first saw him, he was in a state of syncope, which might have been the result of a heavy fall, and consequent concussion of the brain, or of sudden faintness from the exertion made use of in ascending or descending the hill. His state of health for some days previous—and the fact that no cuts or bruises about the head, or stones about the spot, could be discovered—tended to convince me of the probability of the latter being the cause of the mishap. With this belief he was kept a short time where he was, in the horizontal posture, and a stimulating salt was applied to the nostrils. In a very short time, however, it became quite evident that he had suffered, in the first instance, a severe concussion of the brain, and that some rapid effusion was taking place as a consequence; the symptoms of concussion being rapidly succeeded by those of compression. (It was discovered afterwards that, in running down the steep descent, the heel of his boot had slipped on the root of an orange tree which projected out of, and ran for some distance along, the ground, and that he had been, in consequence, precipitated down the hill—his head falling backwards, heavily, on the ground.) Unconsciousness soon merged into complete insensibility; the pupils became widely dilated; the face and neck suffused and red; and the body violently convulsed. I had him removed into the house at once, and, before many minutes had elapsed, twenty ounces of dark blood had been taken rapidly, *cum pleno rivo*, from the arm, and a bolus, of fifteen grains of calomel, had been washed down his throat. The convulsions, however, continued to be frequent and violent; and, before another hour had passed, twenty ounces of blood, as dark as before, had, for the second time been abstracted from the arm.

About nine o'clock, A. M., the convulsions had ceased, but a deep coma remained; the breathing continued to be stertorous; the pupils dilated; and the muscles, principally of flexion, rigid and contracted. A cold evaporating lotion had, from the first, been applied to the head; and evaporation was still encouraged and aided by the steady action of a palmetto fan.

An enema, containing olive oil, turpentine, and a few drops of croton oil suspended in thin mucilage, was given about ten o'clock, and this had the effect of removing, about two hours afterwards, a large quantity of very offensive matter. The pupils continued to be widely dilated; at times the heart would beat violently, and the eyes became suffused; but these bad symptoms were always kept in check by the timely and judicious exhibition of small doses of tartar emetic, repeated as often as the pulse indicated an increased circulation; the hair had, of course, been removed.

This young man remained completely insensible for four days; and it was not until the evening of the fourth that he became at all conscious

I cannot speak too highly of the value of tartar emetic, and of its

Digitized by Google

powers in such cases as an antipholgistic and sedative. I desire that this case should be placed in record to prove this; and also because it exhibited many points of interest, which, although, they can now be only cursorily referred to, might have been dwelt on at the time, when all was fresh in the memory, with profit. In Jamaica—and more especially in the country parts, where one has so much saddle-work, and so many wearisome rides through mountain passes, and under such a burning sun—it is impossible to sit down and write after the fatigue of the day is over; much of great interest to the profession might be recorded otherwise; and one sometimes regrets that he has neither the time nor the inclination to place on record what he sees and observes.

I have thus diverged a little from the subject, in order to explain why I am compelled to trust, principally, to memory for the details in this case. But to return to the facts:—I found that small doses of tartar emetic, combined with henbane and digitalis, given frequently, calmed the pulse and warded off many paroxsyms of convulsive excitement—so to speak. Of course other items of treatment, viz: a blister applied to the back of the neck and head; mercurial dressings to the blistered surface, and mercury and opium given so as to touch the gums; all combined to check and ward off inflammation, and to effect a permanent cure. I wish, however, to speak particularly of the value of tartar emetic in this case, as I found it, and as it impressed itself on my memory at the time. Each apparently approaching fit, as indicated by redness of the face and conjunctiva, fulness of pulse, and jumping carotids, with muscular twitchings, &c., was immediately subdued by the tartar emetic, combined, as it was, with henbane and digitalis.

Strange to say, in this case, when consciousness returned, after a lapse of four days, this young man was a maniac; he had all sorts of fancies, and was at times very much excited; when paper was given to him for cleansing purposes (I will be understood when I so express myself), he would fancy, and insist, that it was all stuck over with pins, and he would pull out the imaginary pins and count them into a hand, or on the table, up to any number; he had lost the memory of names, but not of numbers; and he would wander about the house, and climb up and examine the top of the wardrobe, which his excited imagination would picture as something else. This maniacal excitement, too, was kept in check—and completely so—by tartar emetic, frequently administered; and, from the good effects thus, at all times, made apparent, I was able to assure the boy's sorrowing friends that this excitement would pass over, and that reason would be left intact, after the lapse of a few days; and so it was.

Five years have since elapsed, and my patient of that time is now a thriving planter, and a clever young man.—*Dublin Quarterly Journal of Medical Science.*

Case of Double Hepatic Abscess, occurring as the Result of a Prolonged Attack of Dysentery; the Fluid Evacuated through a Puncture made in the Abdominal Walls, after Union had been Artificially Established between the latter and the Liver; Recovery: By HUGH CROSKERY, L. R. C. S. I.

SEVERAL years ago, a mustee man, named Archibald Morrison, aged

Digitized by Google

about forty-five, was under my care for chronic dysentery, from which he had been suffering for some time, and by which he had become reduced in bulk, and miserably weak. He suffered much from a constant dull aching pain in the right side and shoulder; while his yellow skin became still more yellow, and his conjunctivæ discoloured from biliary infiltration.

When he had been under my care for some time, and pain and swelling in the hepatic region became more urgent, I made a careful examination of his right side, which appeared considerably larger, in the hypochondriac region, than the left, even before his clothes had been removed.

The extensive dulness, on percussion; the deep-seated, dull, dragging pain, and sense of weight in the right hypochondrium; the short breathing, and dry cough; coupled with the fact of his having suffered from a pre-existent and prolonged attack of chronic dysentery—all pointed to the liver as being the diseased organ. It was blistered; mercury was given, but with care, as the man had been previously wasted, from his dysenteric affection; and nitromuriatic acid, which is my favourite tonic in cases of sluggish liver, and after fevers, was frequently administered.

I soon, however, discovered unmistakable signs of the formation of an abscess. A tumor projected from beneath the ribs in front, of stony hardness in its circumference, but, evidently, softer towards its centre. Rigors and hectic sweats at night, with a mitigation of the acute pain, and daily increasing fulness beneath the ribs, confirmed the diagnosis; and I became certain that a large abscess had formed.

I will admit that I had very little hope for this poor fellow; but I felt it to be my duty to do all I could to save him. He lived a very short distance from my residence, and I was, therefore, able to see him constantly. I brought his case to the notice of the good rector of the parish; and, between us, we supplied him with delicacies, and with a constant supply of good port wine.

I daily painted the circumference of the tumor with a very strong solution of nitrate of silver, having first ascertained that there were no adhesions, and that the abdominal wall could be rubbed and moved freely over the surface of the tumor at all points. Adhesive inflammation set in, after a time, in the ring formed by the application of the caustic, which was, nevertheless, steadily and continuously applied for at least four weeks. The centre of the tumor became, every day, more soft and fluctuating; and the abdominal parietes, at this point, became thinner and thinner. I could not move the abdominal wall here now. It appeared to have become firmly attached to the organ beneath; and the time had come to evacuate the abscess. Accordingly, and not without some degree of anxiety, I punctured the abscess with a long-bladed knife, and immediately a fetid stream issued forth. At least a quart of thin, yellow, horribly fetid stuff came away at the time. The abscess continued to discharge for, I believe, three weeks after; and the swelling gradually subsided. The man continued to be well fed, and to take nitro-muriatic acid three times a day. He perfectly recovered; and I frequently see him, now, working in his cane field; nearly four years having elapsed since the abscess was opened in his side.

In conclusion I have to add that the dysenteric attack, and the forma-

Digitized by Google

tion of the hepatic abscess in this case, stood, in the relation to each other, as cause and effect. It can be easily imagined how readily a prolonged attack of dysentery, where pus is freely secreted by the mucous membrane of the rectum, may terminate in the formation of one or more abscesses in the liver. The explanation is very simple. The internal hemorrhoidal veins become charged with pus globules, which are carried up, by the portal circulation, to the liver, where they lodge and multiply; and an abscess, or abscesses, more frequently, is the result. Since writing the foregoing, I have this day (Oct. 22d) seen and examined Archibald Morrison.

I find that there were two distinct abscesses, which I opened, within the ring of adhesion, at different times, a large quantity of pus being discharged on each occasion. The liver appears to have acquired its natural size; and the abdominal wall, in front of it, is considerably puckered and drawn in; showing clearly, and without doubt, complete union between it and the organ beneath. The cicatrices of the two openings, made by the knife, are very apparent, and have an extraordinary appearance. They are situated in the very centre of the body, between the umbilicus and the ensiform cartilage, being about two inches distant from each other; and each having a depression, or pit, in its centre. The man tells me that he enjoys very good health, with the exception that he sometimes feels an uneasy sensation in the right side, which indeed, is not to be wondered at.—*Dublin Journal of Medical Science.*

Trichinosis.

A committee appointed by the Medical Society of Vienna, and composed of Professors Klob, Muller, and Wedl, has just published a long report on trichinosis, in which the startling fact is asserted that the real source of infection lies entirely in the rat, in which the malady is spontaneously developed, and which communicates it to the pig. In Moravia, eighteen out of forty-nine rats examined were trichinized, a proportion of nearly thirty-seven per cent. In lower Austria the proportion was not more than four per cent., and in the environs of Vienna about ten per cent. The report confirms the fact that trichinosis may be transmitted by food, from the rat to the rabbit, from the rabbit to the fox and hedgehog, from the rat to the pig, and from the pig to the rat. Even the calf may be infected by being fed with the flesh of trichinized rabbits. What is worse still, the larvæ of flies feeding on the infected meat will transmit trichinosis to rabbits, provided the larvæ comes fresh from the infected substance; for if a certain time be allowed to pass, the trichines soon die in the digestive tube of the larvæ. It is important to notice that the report distinctly confirms the innocuousness of trichinized meat when thoroughly salted, smoked, or boiled, the latter process being by far the most efficacious. Meat roasted for three-quarters of an hour is safe food; boiling requires a whole hour. And yet the report mentions cases of infection recently observed in Austria, so that means should be taken

Digitized by Google

there to protect the public from this disastrous malady. The first measure proposed is the extermination of all rats and mice, but not without previously examining them, in order to ascetain the existence of trichinosis among them. If this examination should lead to affirmative results, then particular care should be taken in the locality to keep pigs away from all sewers, heaps of manure, and other such places frequented by rats. The flesh of the pig should be examined either after death, or even during life, by means of incisions. The infected pig should be separated from the others, marked, and its sale prevented. Special slaughter-houses should be organized for pigs, and the flesh examined by veterinary practitioners; and the public themselves are warned never to eat raw pork under any form, but strictly to consume it only well salted or smoked, boiled or roasted.—*Exchange.*—*Medical Record.*

Inhalations of Persulphate of Iron in the Atomized form for arresting Hæmorrhage of the Lungs: By G. Bruhl, M. D., Cincinnati.

It is generally conceded, that remedies locally applied, have a more prompt and decisive effect than those administered "*per viam longam digestionis.*" If in a case of severe metrorhagia, styptic injections are made in the uterus, immediate relief is mostly afforded in a short time. Therefore, it is reasonable to expect a similar favorable result, if we apply styptic agencies in hemoptosis by means of inhalations in an atomized form. The following case, and the experience of known professional men, who have paid particular attention to this subject, shows the accuracy of this conclusion. A lady of delicate health, about 25 years old, mother of two children, had suffered at different times for the last seven years from slight hemoptosis. A physical examination of the thorax left no doubt that there existed a cavern in the upper lobe of the right lung. The usual routine of treatment had been employed for a long time, but disgusted with the hypophosphites and cod-liver oil "*et id genus omne,*" she had abandoned all treatment until about eight weeks ago, when a severe pulmonary hæmorrhage made her apply again for medical aid. The usual remedies, sugar of lead, tannin, gallic acid, persulphate of iron, ergotin, digitalis in combination with opiates were used, checking the hæmorrhage partially for two or three days, when another severe attack would occur. So things went on for about fourteen days, when one morning I was hastily sent for with the "consoling" message that the lady was in a dying condition. As a last resort I took one of Bergson's insufflators along. I found her with a small frequent pulse, heavy respiration, cold extremities, covered with a clammy perspiration, unable to utter a syllable. A wash-bowl half full of blood, standing in front of the bed, revealed plainly the cause of the calamity. Without any hesitancy I forced a solution containing liq. ferr. persulphate; aq. lauroceros. aa. ʒ; aqua distill.; ʒx, by means of the insufflator in her mouth, keeping on with this maneuver for about half an hour. To my surprise her pulse became gradually fuller and slower, the respiration more regular and easy, her hands warmer, and the hemoptisis ceased. Internally, I ordered her then ℞ Ergotin ɔij, æther

acetic ʒi. plumb acet. ʒss. morph. acet gr. i, Aq. cinnamon ʒiss. Syr simp. ʒss; a teaspoonful to be given every hour; at the same time instructing her husband to have the inhalations repeated, if another attack should happen.

When I called in the afternoon, she had only expectorated a few teaspoonsful of dark coagulated blood, and perfect reaction was established. As the result was so favorable I kept on with the inhalations for fourteen days twice, and from thence only once per diem. Since that time never the slightest trace of blood could be detected in her sputa. She has gained in flesh and spirits; the cough and purulent expectoration have diminished; the cavernous rales disappearing. If this is attributable to the tonics she is taking now I do not know—anyhow she is improving.

In looking over the authorities, I find that other physicians have had similar happy results. Lewin reported 47 cases, of which in 36 the hæmorrhage was arrested after the first inhalation. Zdekauer, 5 cases, where a number of internal remedies had been used in vain; in 2 cases the hæmorrhage ceased after the fourth inhalation. Dr. Linger reports one case with perfect success; Fieber 4; Schnitzler 1; Leibbinger 2; Siegle 3; Tobold 21, needing from one to three inhalations; Wedemann 6; and Waldenburgh 6 very severe cases, in all of which, but 1, only one inhalation was necessary.

The remedies used by these gentlemen were principally the perchloride of iron, tannin and alum. Besides them, cold water of a temperature of 8–10° R. has been proposed by Fieber, but I do not find any case on record where it has been tried with success. In all severe and obstinate cases the preference has been given to the perchloride of iron; alum and tannin only being applied in the milder cases, or where after the use of the perchloride a slight hæmoptisis kept on for some while. The above case shows that the persulphate is equally effective. The dose of these agents is:

Liq. perchloride., ferr. gtt. V—XX.
Liq. ferr. persulphat., gtt. V—XX.
Aluminis, gr. V—X.
Tannini, gr. V—XX.—to 1 oz. distilled water.

As a corrigens about 20 drops of laurelwater may be added.—*Cincinnati Lancet and Observer.*

On Diabetic Phthisis and its Treatment: By Benjamin W. Richardson, M. A., M. D., F. R. C. P., Senior Physician to the Royal Infirmary for Diseases of the Chest.

The Physician who has occasion to treat large numbers of patients suffering from phthisis pulmonalis soon becomes aware of the fact that the disease is not a single and simple organic lesion depending only on one primary condition, but that, manifesting a remarkable unity in respect to symptoms, it may exhibit as remarkable a diversity in relation to cause, and may be allied with many and varying forms of disease. Thus there is a true form of phthisis connected with alcoholic degeneration of the

tissues—*alcoholic phthisis;* there is a form of phthisis in children connected with cyanosis—*cyanotic phthisis;* there is a *bronchial phthisis;* there is a form of phthisis from inhalation of foreign substances—*mechanically excited phthisis;* there is the *ordinary phthisis* of the young, hereditary or acquired; and, lastly, there is the peculiar form of phthisis which is sometimes coincident with diabetes, and to which I would now direct attention—*diabetic phthisis.*

Diabetic phthisis is, by comparison, a rare disease. In the course of twelve years' practice at the Royal Infirmary for Diseases of the Chest I have met with not more than eight cases, and in private practice I have met with three only. On the whole, judging from experience, I should think that of fifteen hundred cases of a phthisical character, not more than one would be a case of diabetic phthisis. Further, the disease diabetes may prove fatal without any of the symptoms of phthisis. For all this, diabetic phthisis, when once set up, is a well-marked form of disease; it is sometimes more than a complication of diabetes when it appears, for it soon stands out first, and becomes the actual life-destroyer.

In three of my cases the patients presented themselves unconscious that they were eliminating large quantities of sugar by the urine, and complaining solely of the affection of the chest. In all the other cases the symptoms of diabetes had been recognised prior to the development of pulmonary mischief; this, I have no doubt, is the general rule, and I believe in every case where the history of the symptoms can be clearly traced it will be found that the diabetes was the antecedent affection, although the patient was not conversant of the fact. When in the course of diabetes the phthisical condition is developed, the newly diseased state is not usually an early complication, but, once developed, it speedily runs its fatal course.

The first general symptom is severe hectic, the hot stage of which is very extreme, and, instead of being followed by profuse sweating, is succeeded by great coldness of the surface of the body, depression, and copious elimination of urine. Difficulty of breathing is a marked symptom; cough is common, but is usually hacking only, and is unattended with any quantity of expectoration. Hæmoptysis, in the strict sense of the word, I have not seen; but sputa of the rusty character in small quantities is frequent. There is little acute thoracic pain, but great oppression. Waste of bodily substance is extreme.

The physical signs are well marked. If the disease is seen early, patches of lung, like so many centres, give signs of dry crepitation; rapidly this crepitation extends over the whole lung, In one of my cases, during the last six weeks of life I could put the stethoscope over no part of the chest without hearing crepitation. The crepitation is distinctly that of early tubercle; it is wanting in the fineness of early pneumonic crepitation. In course of time there is some tendency to softening of tubercle, but this is very limited, and I have but once observed the actual formation of cavity. Death takes place, in fact, too early to give time for softening or absorption of tubercle; added to this, the diabetic condition seems to interfere with the progress of softening, probably by the removal of water from the tissues.

Percussion over the chest where there is crepitation may be dull, but this sign is not essential.

Whenever there is clearly developed diabetic phthisis the *prognosis* is

Digitized by Google

becoming so general, that mistakes which were formerly not uncommon are now comparatively rare. The diagnosis of ovarian tumors from pregnancy—from fibroid or fibro-cystic tumors of the uterus—ascites—tubercular or cancerous affections of the peritoneum—other forms of intra-abdominal cancer—hydatid cysts in the liver—iliac or pelvic abscess—is made repeatedly, in hospital and private practice, with a readiness and certainty which render a mistake quite an exception in a large series of accurate opinions. But exceptions still occur; and men of great experience must occasionally admit that an exact diagnosis is impossible. In other cases, it is only after an explanatory or incomplete operation, or after the death of the patient, that a mistake is discovered, and the means of avoiding it for the future are learned. Such a case has recently occurred in my own practice—a cyst, believed to be ovarian, proving to be a cystic degeneration of the kidney; and I avail myself of the earliest opportunity of bringing this case before the profession, with a few remarks on other cases in which I have known renal to be taken for ovarian disease.

The author then cites in detail several illustrative cases, replete with interest, but too lengthy to be given entire. The first was one of "soft cancer of the right kidney," in a girl only four years of age. She was sent up to the country to me, in 1862, supposed to be suffering from ovarian disease. The diagnosis of this case was made without much difficulty, although the urine was quite normal. The growth was extremely rapid; hardly six months from its commencement to its fatal termination, when the diseased mass weighed sixteen pounds. The tumor occupied the whole of the right side of the abdomen, bulging backwards in the right loin. It was uniformly elastic, but not fluctuant. The intestines were pushed downwards and to the left side. The rapid growth and the absence of fluctuation were, of course, strongly against the opinion that the tumor was ovarian; while the rarity of ovarian disease in young children, and the comparative frequency of renal encephaloid, led to a diagnosis which was confirmed by a puncture with a fine exploring needle. A few drops of reddish serum were obtained, containing nucleated cells of most varied size and shape. * * *

Whether renal cancer be observed in children or in adults—whether it be or be not accompanied by hematuria, or by the presence in the urine of albumen, or of epithelial cells from the ureter and pelvis of the kidney—whether the progress of the disease be slow or rapid—whether there may be much, little, or no pain, or emaciation, or gastric symptoms—or great or little effect upon the general health—the abdominal tumor is the most prominent characteristic of the disease. As Bright observed (*Abdominal Tumors—Sydenham Society's Edit.*, p. 199):—"The enlargement shows itself much more towards the anterior part of the abdomen than towards the loins." It is, however, more or less confined to one side of the abdomen, and to the corresponding lumbar region, whence, as a rule, it is immovable—and equally, as a rule, some portion of the intestines are fixed in front of it. * * *

The absence of fluctuation is the leading sign by which *cancerous* and other *solid* tumors of the kidneys are distinguished from ovarian tumors; for it is extremely rare to find a large ovarian tumor in some part of which fluctuation cannot be detected. But in some forms of kidney disease, fluctuation is as evident as in ovarian cysts. It was perceptible

Digitized by Google

in the second of the three cases on which this paper is founded—one of "Pyonephrosis of the right kidney, with impaction of two calculi in the ureter."

The third was a case of "cystic degeneration of the left kidney, mistaken for a cyst of the left ovary."

The paper is concluded by a summary of the principal signs whereby we may establish a distinctive diagnosis. It is evident from the cases just narrated that both solid and cystic tumor of the kidney may be mistaken for ovarian tumors. Solid renal tumors, whether cancerous or innocent, may resemble the malignant, psuedo colloid, or cysto-sarcomatous tumors of the ovaries; while different varieties of ovarian cysts may be closely simulated by different forms of pyelitis and pyonephrosis, hydronephrosis, cystic degeneration, and the growth of hydatids in the kidney. Perhaps the diagnosis may be facilitated by attention to the following propositions.

1. Although intestine is sometimes found in front of ovarian tumors, and sometimes behind movable renal tumors, these are very rare exceptions to the general rule that renal tumors press the intestines forward, and ovarian tumors press them backward. In other words, ovarian tumors are in front of the intestines, renal tumors are behind the intestines.

2. Large tumors of the right kidney usually have the ascending colon on the inner border of the tumor. Tumors of the left kidney are usually crossed from above downward by the descending colon.

3. The discovery of intestine in front of a doubtful abdominal tumor, should lead to a careful examination of the urine. It is possible that one kidney may be diseased and the urine quite normal, because the healthy kidney alone secretes urine. But the rule is that either blood, pus, or albumen, or characteristic epithelium, are detected—or some history may be elicited of their being detected at some former period.

4. If any doubt be entertained whether a substance felt between an abdominal tumor and the integument be or be not intestine, percussion may not solve the doubt, because the intestines may be empty and compressed. But an intestine when rolled under the fingers contracts into a firm, cord-like, movable roll; the patient may be conscious of the gurgling of flatus along it, or the gurgling may be heard on auscultation; the intestine may be distended by insufflation, after passing a long elastic tube through the rectum.

5. Ovarian and renal cysts may both be subject to great alterations in size. When the kidney is the seat of disease the fluid usually escapes by the ureter and bladder. An ovarian cyst can only empty itself through the bladder after adhesion and a fistulous opening. It may discharge through the Fallopian tube and uterus, or into an intestine, or through the coats of the vagina. In either case the physical and chemical characters of the fluid discharged will be the chief guide in diagnosis.

6. If a correct history can be obtained, it may be expected that a renal tumor has first been detected between the false ribs and ilium, and that it has extended first towards the umbilicus, next into the hypochondrium, and lastly downwards towards the groin. An ovarian tumor has, in all probability, been first noticed in one inguinal or iliac region, and has extended upwards and inwards.

Digitized by Google

inevitably bad, according to our present knowledge of treatment. Further, the prognosis is almost definite as to time; I have not seen a case that survived four months after the tubercular condition had been obviously present. From six to ten weeks is the common duration of the term of life from the period of severe and definitely recurring hectic.

After death the condition of lung is peculiar, and in three cases—the only cases I could be allowed to inspect—the condition was the same. The lungs were much shrunken and dry; they were greyish and darkly mottled in color; the tissue was filled with small dark—I had almost said gritty—tubercle, and there were a few patches of deep vascular congestion. There was no pleuritic adhesion, no serous effusion, no pulmonary cavity.

In every case of diabetic phthisis I have seen, there has been disease of the base of the brain. In one case there was a growth of bone pressing upon the under surface of the medulla oblongata; in another case there was softening of brain substance, and in a third case there was disease of the vessels with thickening of the membranes and old adhesions. In one of these cases the patient had been under the late Dr. Baly for "acute meningitis," and his symptoms of diabetes followed that attack immediately. As he recovered from his acute illness he discovered himself diabetic.

The pathological relationship of diabetes and phthisis of the lung seems to me to be through the nervous system. That there is a functional and an organic type of diabetes; that the functional type is largely curable, and the organic absolutely incurable; and that the functional type is connected with a false digestion, owing to temporary interference with nerve action—these I think, are facts which every scientific physician must be prepared to accept.

Some difference of opinion, however, yet exists as to the relationship of diabetes to disease of the brain. The progress of experimental inquiry has all been to the effect that lesions of brain structure is an efficient cause of the diabetic condition; Dr. Ogle has recently, in a most labored and able paper, maintained that the brain lesion sometimes found in diabetes is a result of structural change incident to the diabetic state, and a result instead of a cause. I do not propose to discuss this refined question now, but I would point out that when phthisis of the lung is developed during diabetes, the morbid change appears to be the result of what may truly be called innervation of the lung tissue. That the change is not due merely to modification of the blood is certain from the fact that diabetes may exist or prove fatal without the occurrence of pulmonary phthisis or any sign of it. The occurrence of the phthisis also takes place, as I think experience shows, only when the diabetes depends on lesion at the base of the brain. It is fair to presume, therefore, that in such cases the nervous injury has so extended as to involve at their source the nerves from which the pulmonic structure is supplied.

Regarding treatment in diabetic phthisis. I have tried various plans —oxygen by inhalation, oxygen by peroxide of hydrogen, special diet, change of air—and all to no purpose. Still there are certain points of practice which are worthy of note. I name two especially.

1. I am convinced that in this malady oxygen and its allies, chlorine, iodine, or their compounds, do harm; they increase elimination, and reduce accordingly.

Digitized by Google

2. I am equally certain that a diet restricted to albuminous products is utterly wrong both in theory and in practice. I believe that in functional diabetes a great deal can be effected by restricted diet, coupled with the method first suggested by Rollo, of giving with such diet, ammonia and iron freely. I doubt, however, the practice of restricted diet in every case of organic diabetes, and in cases where there is the faintest indication of phthisis the restricted diet becomes, I feel sure, a positive evil. So soon as diabetic phthisis is established the general dietetic rules for phthisis alone are the rules, and the only rules, to follow. In the way of affirmative treatment the principles are—to sustain warmth of body, to check waste by opium and quinine, and to sustain by good food, especially by the free use of animal oil. In the next case I have to treat I will give animal oil, not by the spoonful, but by the half-pint at a time. I will give it as the Esquimaux takes it, and for the same reason, to sustain the lost caloric in his case too rapidly carried away by the surrounding cold, and in the case of the diabetic man by the excessive formation, dissolution, and elimination of sugar. To this last remark I would add that, in respect to the treatment of organic diabetes altogether, there is more hope in the free use of animal oil than in any other remedy. Here is an unexplored field of practice before us, a very simple practice, and easily put to the test, but a practice strictly rational and based on the true institutes of medicine.—*Medical Times and Gazette.*

Chloride of Sodium in Typhoid Fever: By LUTHER C. WHITE, M.D.

DURING the summer and early autumn of 1861, Van Buren, Ark., was visited with one of those epidemics of remittent and typhoid fevers, or rather with that pernicious form of bilious remittent fever, which speedily runs into a typhoid form, with extensive ulceration of the glands of the bowels. My first case was that of a young gentleman, a merchant of this city, Mr. M. Hinkle, aged 22, attacked Aug. 1st, with the ordinary chill, followed by continued fever and immense discharges per anum, a few days thereafter, of blood and pus. I tried the routine treatment all to no purpose, so far as controlling the latter symptoms, when it occurred to me to try common salt. Taking a saturated solution of the article, I gave two teaspoonsful every 20 minutes, and continued about 3 hours, with a most decided and remarkable result. At the time of commencing its use, which was on the ninth day after the attack, and the sixth day after the supervention of the ulceration, my patient was exceedingly low, and the ulceration, judging from the quantity of blood and pus, was extensive. I continued the use of the remedy for fifteen days before I could finally dispense with it, and, to make assurance doubly sure, I omitted its use for several times, when the discharges would invariably return. I concluded that the common salt had saved

Digitized by Google

my patient's life, and at this time I entertain not the slightest doubt about it.

So well pleased was I with the result that I subsequently used it in 17 cases, all with the like decided and beneficial results. There were no unpleasant symptoms—neither nausea, thirst, or anything else, save that it acted like a charm in every instance, and I saved every one of my patients.

Now, I do not know whether any other physician has tried the article in like cases or not, but I would strongly advise them to do so. Shut in as we have been, until recently, we could not tell what was going on outside in the moral world, nor what discoveries have been made in medicine; but I do not recollect ever to have heard of common salt being used in fevers of any kind. I should be happy to know that other physicians have tested it. I often, in the year 1861, gave it in advance of the ulceration, and in every case it controlled and prevented it. Indeed, I thought at the time that I had made a most valuable as well as wonderful discovery, for I used it in so many instances, and proved it, that I have no doubt whatever that it saved life where nothing else would have done it. It must not, of course, be understood that it was the sole remedy used in those cases, for I gave tonics, alteratives, opiates, terebentha, etc., etc.; but nothing would control the ulceration but the salt, and that did it to perfection.—*Correspondence Chicago Medical Examiner.*

Intolerance of Everything Except Milk for Twenty-five Years without Affecting the Health: By W. MARSDEN, M. D., Canada.

"CLOTHILDE CHAUVIN, ætat 25; married four years since, to Joseph Mayeux; both parties born and residing at Pointe des Roches, in this county. When she was almost three months old, she had whooping-cough very severely, and the vomiting that attended it was protracted, and brought her to death's door. On weaning, every attempt to give her solid food, even in the most trifling quantity, and in the most attenuated form, was invariably followed by immediate vomiting. Bread, crackers, flour or arrowroot in the *smallest* quantity, added to her milk, never failed to be at once rejected. Her death from inanition was expected from day to day, and from week to week, but instead of dying, she throve wonderfully. It was then confidently predicted she could not survive her seventh year, but she passed that period without any sickness worth a moment's care. The age of puberty was then allotted as the utmost possible limit of her life, but she attained full womanhood without knowing what it was to be sick. Her (would be savant) friends now assigned her majority as the period of assured death, but she preferred marriage, and at twenty-one was married to the aforesaid Mayeux, and at twenty-three became a mother. She is now far advanced in her second pregnancy—the first time she remembers ever to have been sick. I asked her what her weight was, and she appealed to her husband, who

Digitized by Google

said he believed it was one hundred and forty pounds. I am inclined from the size and solidity of her arm to believe he underrates it. Working in the harvest field, she says, no girl ever went before her; playing on the hay-mow, neither boy nor girl could handle her. 'What do you live on?' I asked. 'A bowl of milk, with two tablespoonsful of molasses, three times a day, and sometimes a lump of sugar, which I suck,' I observed to her, that if she had not tried to eat, she could not tell whether she could swallow or no 'She said she had tried again and again, and that she *could swallow very well.*' 'Then it seems you *do* eat, only you reject what you have eaten.' Instantly,' was the reply. 'How long is it since you made the last attempt to eat?' 'Seven or eight years'. 'Have you eaten nothing since you were married?' 'No, nor for many years before—no kind of solid food has gone inside my lips; nothing but milk, molasesses and sugar.' 'Fruit, raspberries' or strawberries?' 'I have put them on my tongue to see if I could taste them, but never attempted to swallow one; *but I have no taste, I can taste nothing.*' Whether this last statement is *absolutely* true, I did not ascertain by special inquiries, but she led me to suppose that salt, vinegar, or gall, alike failed to produce any impression; in fact, that the gustatory nerve was paralyzed or wanting.

"I would have pursued my inquiries further, but she had twenty-four miles to ride, and I did not feel warranted in taking up more of her time.

"The mere fact that existence has been maintained for twenty five years on this diet, is not so amazing as the large amount of physical strength developed under it. Of the truth of the whole narration I have not the least doubt, and I thing it a really surprising case. In appearance she resembles a stout, well developed French 'Habitant' woman." The Doctor adds: "I begin her history as she gave it to me, with the whooping-cough, though how far (if at all) that is connected with the case, I am not prepared to say."

Such cases as the foregoing are very interesting, and show how much more important a part fluids play in the economy of nutrition than solids. Here we see milk doing the work of nutrition, as well as bread, beef and potatoes; and why not? Milk appears to partake of the nature of both animal and vegetable food. Milk contains casein, fat and sugar; and we have the casein or curd, and the fat or butter, representing the fibrin or fat of the beef, and, at the same time, a large proportion of sugar, which is much increased in Mayeux's case, by "molasses, and sometimes a large lump of sugar," which represents the starch of wheaten bread.—*Medical and Surgical Reporter.*

OBSTETRICAL.

On the Diagnosis of Renal from Ovarian Cysts and Tumors: By T. Spencer Wells, F. R. C. S.; Surgeon in Ordinary to Her Majesty's Household; Surgeon to the Samaritan Hospital; etc.

During the few years which have passed since the revival of ovariotomy in England, great attention has been paid to the diagnosis of abdominal tumors; and a knowledge of their distinctive characters is

7. It is only a very small ovarian tumor, with a long pedicle, which could be mistaken for a floating or movable kidney. The latter may be recognized by its characteristic shape, though it is often so misplaced that the hilus is turned upwards. The kidney is usually felt between the umbilicus and the false ribs, and may be pushed upwards and downwards, or laterally, to a varying extent, or into the lumbar region to the normal position of the kidney. When the kidney is pushed away from this position the sound, on percussion, becomes tympanitic.

8. Just as renal tumors are usually associated with some evidence or history of hematuria, calculus, albuminuria, nephritic colic, or some notable change in the quantity or state of the urine, so ovarian tumors are usually associated with some change in the quantity and regularity of the discharge, or with suffering at the catamenial periods, and with some alteration in the mobility or situation of the uterus. But as in some rare cases of renal disease the urine may be normal, so in some rare cases of ovarian disease there may be nothing abnormal to be discovered in any of the pelvic viscera, or in their functions.

By bearing these facts in mind an accurate diagnosis may be made in a very large proportion of cases. Some rare cases of expectional difficulty may, however, be occasionally expected. Not as an excuse to the careless and ignorant, but as some solace to others who have erred unwittingly, and as an answer to some who, having little experience of the difficulties of actual practice, are apt to speak of all mistakes as inexcusable, I quote the following remark of one of the greatest clinical teachers of any age or country—Bright:—"I have known the enlarged kidney to be mistaken for disease of the spleen—of the ovary—of the uterus—and for a tumor developed in the concave part of the liver; *nor is it, perhaps, possible, by the greatest care and the most precise knowledge*, altogether to avoid such errors."—*Op. cit.*, p. 198.—*Dublin Quarterly Journal of Medical Science.*

On a Case of Extra-Uterine Pregnancy: with Clinical Remarks, Favorable Termination: By ROBERT GREENHALGH, M. D, Physician-Accoucheur to St. Bartholomew's Hospital, and Lecturer on Diseases of Women and Children; Consulting Physician to the City of London Lying-in Hospital; etc.

THE infrequency of extra-uterine pregnancy, the difficulties usually attending its diagnosis, the dangers present and prospective with which it is surrounded, and the insufficiency of all means hitherto devised for its arrest and safe termination will, I trust, be deemed sufficient grounds for occupying your time with the details of the following case, and with some reflections having a practical bearing upon this most important class of cases.

On the 4th of last October I was hurriedly summoned to the bedside of a lady who, I was informed, was suffering from the effects of extra-uterine pregnancy. I learnt on my arrival at the house that a general practitioner in the neighborhood had been hastily applied to on account of the patient having been seized with sudden and acute pain, like cramp,

in the lower abdomen. After a careful investigation he somewhat indiscreetly informed the patient of what he believed to be the nature of the case and the danger of her condition, which had so alarmed her and her husband that they at once requested his withdrawal on the score that so grave a case required a special practitioner. I found the lady very pallid and greatly agitated. She was twenty-six years of age, and had been married just six months; had passed four catamenial periods, never having once "missed" since the establishment of that function, which had always been perfectly normal. About two months and a half ago she began to be very sick in the morning, when, after violent retching, she brought nothing but mucus, occasionally mixed with a little bile, off her stomach; she was never without a feeling of nausea, which, however, did not materially interfere with her appetite. Two months ago her breasts became tender and began to swell, and she noticed the nipples enlarging, and around them the skin becoming gradually darker; some small "pimples" at the same time making their appearance, she thought more marked on the left breast. Three months ago she experienced pain in the left groin and labium, sometimes extending to the inner and upper part of the thigh, which she described as a "bursting" sensation, accompanied at times, especially on exertion, with considerable irritability of the bladder and rectum. These symptoms gradually increased up to the time of my visit, when she was in the greatest suffering, so much increased by the slightest movement that she dreaded to shift her position. Having ascertained these facts I examined her breasts, which manifested all the usual characteristics of the pregnant condition at the third month, so ably depicted by Montgomery. Being placed on the back I proceeded to examine the abdomen, the parietes of which where thin and flaccid, when she screamed with agony, especially when pressure was made over the left iliac fossa.

Finding it impossible to make an accurate investigation, she was subsequently placed under the influence of chloroform, the bladder and bowels having been previously evacuated, when the nates were brought close to the edge of the bed, the thighs being flexed upon the abdomen, and her head propped up with pillows. The abdomen was tympanitic, except in the left iliac fossa, a little above and below Poupart's ligament, where there was a sense of resistance and slight dullness on percussion; a bruit could be distinctly heard about that region. Per vaginam, the vagina was somewhat elongated, the rugæ ill-developed; the cervix uteri slightly raised, enlarged, and spongy to the touch; the margin of the os, granular to the feel and yielding. The cervix was driven to the right of the pelvis, the left being occupied by a round, ill-defined, elastic swelling, merging into the surrounding textures, which upon pressure being made by the left hand could be brought more easily within reach of the finger. I fancied more than once that I could detect something like a feeble *ballottement*. The uterus was slightly movable. At this stage of the investigation I was convinced of the existence of pregnancy, but that there was no embryo in the uterus. I therefore ventured carefully to introduce a sound into that viscus, which passed easily three inches in the normal direction, clearly proving that the uterus was increased in size. Per rectum, I could trace out the enlargement lying anteriorly and to the left of that canal, the uterus being forced over to the right of the pelvis. I may here remark, that this investigation was

Digitized by Google

conducted with the greatest gentleness, as I feared the cyst might rupture, even with the most tender handling. The patient, being still partially under the influence of chloroform, was placed in a comfortable position, and the strictest quiet of mind and body was enjoined. I now informed her husband of the nature of the case and its hazards, confirming in every particular the opinion of the intelligent practitioner who had preceded me, at the same time requesting a consultation, which he (the husband) declined, saying that he was perfectly satisfied with the two opinions he had already had, and was ready to acquiesce in any plan of treatment I thought fit to recommend. I ordered a grain of morphia with cocoa-nut butter to be introduced into the rectum, an antispasmodic draught with hydrocyanic acid and small doses of morphia, ice, and a tablespoonful of essence of meat, to be administered from time to time.

On the morning of the 7th of October I was pleased to find that my patient had passed two tranquil nights, and was in no way suffering from the recent examination. She had vomited twice with but slight efforts, had passed water, and had a slight sanious discharge from the vagina, with a sensation of bearing down. Pulse 86, feeble; lips dry; complains of thirst; skin slightly above the normal temperature, but moist; abdomen still tender. She had taken freely of meat-juice. Having thought over the case in all its aspects—the prospect of the gradual development of the ovum, with its daily increasing vascular supply, and the more than probable ultimate rupture of the cyst, giving rise to fatal internal hæmorrhage,—I determined to propose the puncture of the cyst through the roof of the vagina, and thus draw off the liquor amnii by means of a hair trocar and canula. Having fully explained to her husband the whole facts of the case and the method I proposed for its treatment, I gave him distinctly to understand that, although I had frequently, and with the best results, introduced that instrument into pelvic tumors, still I had had no experience whatever of its use, nor was I aware that it had ever been proposed, in a case similar to the one under discussion. Moreover, I stated that in the event of a consultation being held to determine the advisability of such a proceeding, I was fully prepared to meet with the stoutest opposition. Notwithstanding, I strongly urged a consultation, with the view, as I stated, of sharing the responsibility with another; he, however, declined to accede to my request.

At ten o'clock on the morning of the 8th I found my patient more comfortable, with less pain and tenderness in the abdomen, but much distressed by retching every now and then; she was, however, anxious to submit to the operation I proposed, and about which her husband had given her every information. Having carefully placed her in the ordinary obstetric position, I guided with the index-finger a long hair trocar and canula to the most accessible and depending part of the swelling, while gradual and firm pressure was made, by means of a large sponge, upon the left iliac fossa, so as to bring the tumor close against the roof of the vagina and within easier reach. I now plunged the trocar with canula firmly against the tumor, into which they entered to the extent of an inch, when, upon withdrawing the former, about fifteen drachms of liquor amnii, slightly tinged with blood, escaped through the canula. I may here remark that when flowing, pressure on the abdomen was

Digitized by Google

gradually discontinued, with the view of preventing the ingress of air. For a week my patient continued to progress most satisfactorily; the sickness and nausea, tenderness and pain, had gradually subsided, the breasts were decreasing in size, she was regaining her appetite, and her nervous agitation had almost wholly ceased; in short, to use her own expression, "she was quite another woman." On examining the left iliac fossa, it was found nearly, if not quite, as resonant as the right; there was no longer any sense of resistance to the touch, and she could bear tolerably firm pressure without flinching. The uterus had somewhat descended in the pelvis, and had assumed a more central position and in place of the semi-elastic and round swelling, a hard, irregular, well-defined, and slightly movable body could be felt to the left of that viscus.

She continued to improve up to Oct. 27, when she was seized with a rigor, followed by pains in the hypogastric region of a paroxysmal character, accompanied with vomiting, acceleration of the pulse, and some heat of skin. These symptoms continued for about four hours, when a sanious discharge from the vagina made its appearance. During a severe paroxysm of pain some coagula were expelled, together with what proved to be, on careful examination, a portion of decidua, shortly after which she experienced almost perfect immunity from pain. From this time the discharge gradually ceased, having lasted five days; in fact, it was a menstrual period.

On the 3rd of November last I again made a careful vaginal examination, when I found the uterus nearly in its normal position and approaching its natural size. I could scarcely discover any trace of the extra-uterine swelling.

Nov. 6th, 1866.—The patient is fast regaining her strength, and is not conscious of any discomfort in or about the pelvis.

March 5th, 1867.—She is now in perfect health, having menstruated four times somewhat more freely than usual, but without pain.

It may now be interesting and instructive to you, gentlemen, if I append some few particulars of great practical importance connected with this subject. Dr. Campbell, in his excellent and critical monograph on Extra-Uterine Gestation, remarks: "After the extinction of its (the fœtus's) life, the fœtus has remained a long series of years in the abdomen of the parent with little inconvenience to her." He, however, suggested no method by which the progress of development can be arrested and such a result effected. Dr. Churchill says. "the child dies soon after the rupture of the cyst in most cases." Dr. Murphy remarks, "the treatment of such cases is out of our reach. Dr. F. H. Ramsbotham states, "Our treatment must depend entirely on the symptoms, and must be directed to the relief of pain and assisting nature in her efforts to get rid of the offending mass;" and further, "It cannot be necessary to lay down any rule of treatment for those cases in which the cyst bursts and the contents pass into the abdominal cavity, because such are almost always rapidly fatal." Cazeau remarks: "When left to itself, an extra-uterine pregnancy will generally terminate in a rupture of the cyst. ....This rupture, which is usually spontaneous, always gives rise to extremely grave phenomena." And under the head of treatment, he observes: "It is evident that no operation could be attempted in the earlier months of pregnancy, even if we should be fortunate enough to

Digitized by Google

ascertain with certainty that the ovule was not developed in the uterus." Dr. Hodge says, "In some cases the ovum perishes early, and then the excitement and irritation diminish, and the embryo may remain encysted in its own membranes, not only for days or months, but many years." This author further states that "the second termination is the rupture of the sac, the death of the fœtus, and usually the death of the mother from hæmorrhage or inflammation." Again: "Of all terminations, where the embryo perishes early, and is encysted in its own membranes, is by far the most favorable; as the tumor is small, and very little irritation is produced." Further: "It has been suggested to adopt measures as early as possible to destroy the life of the fœtus in extra uterine pregnancies, and thus to escape the accumulative dangers from rupture, hæmorrhage, or inflammation consequent upon its continued development;" adding, "the morality of this practice need not be defended, for it may be assumed that the child must sooner or later perish." And he records that in 1857 M. Bachetti of Pisa said that he had actually succeeded in destroying the life of the fœtus by electro-puncture, by inserting two needles into the sac and directing through them an electro-magnetic current.

I need not occupy more of your time by a further array of authorities to prove the dangers of these cases and the unsatisfactory treatment hitherto had recourse to.

Experience has demonstrated, amongst others, two most important facts: firstly, that in those cases in which the embryo perishes early little or no further danger or evils need be apprehended; and secondly, that where its development is thus arrested, especially when enclosed within its own membranes, no more favorable issue could be desired.

It will be generally admitted that where the liquor amnii is discharged, either spontaneously or artificially, at an early period of gestation, embryonic life is almost if not quite certain to be extinguished, and the growth of the involucra arrested, and thus all fear of over-distension and rupture of the sac will be avoided. It may also be fairly conceded that the puncture of cysts about the cavity of the pelvis by means of a hair trocar and canula is rarely or never attended with serious results, especially if care be taken not to exhaust the sac by pressure upon the abdomen, thus avoiding the ingress of air. But it may be asked—Is the diagnosis of extra-uterine pregnancy always so certain that we dare venture to introduce a trocar into a growth the nature of which may be so questionable? Doubtless, the diagnosis of these cases is frequently most obscure—nay, impossible; still, assuming the enlargement to be due to one or more of those growth usually found within the pelvis—such as pelvic abscess, hæmatocele, cyst of the broad ligament, ovarian dropsy, fibro-cystic tumor, &c.,—so much light would thereby, in all probability, be thrown upon the nature of the case as to determine our diagnosis, prognosis, and rational treatment, and in some few cases even more—the puncture may be, and has been, the very means by which the disease has been relieved, and in some instances cured.

If, then, we consider the danger of these progressive cases of extra-uterine pregnancy on the one hand, and the harmlessness of the means proposed and adopted for their arrest on the other, I think I am justified in assuming that, where an early diagnosis is made, the evacuation of the liquor amnii by the hair trocar will be found a safe, easy, and

Digitized by Google

efficient means in lessening or altogether averting the dangers of these hitherto alarming and fatal cases. It may be said that I have somewhat too hastily brought this case before your notice, and that evils may yet arise which might prove that the practice adopted is not so valuable and worthy of imitation as has been assumed. I am most anxious to guard myself against any such imputation, as I am fully aware that nothing is more damaging to the cause of medicine than the publication of so-called successful cases before sufficient time has elapsed to test the efficacy of any plan, especially a new one, resting, as in this instance, upon the case only. Still if anyone will well and impartially consider and weigh the whole facts of this case previous to the improvement—aye more, the speedy and complete disappearance of all the symptoms subsequent to the operation, and the physical changes which have since occurred, I trust I shall be acquitted of anything like precipitancy in the matter, and that this case, at least, will be emphatically declared a complete success.—*Lancet.*

Twins weighing Seventeen Pounds—Post Partum Hemorrhage from Atony of Over-distended Uterus—Internal Application of Cold—Recovery: By J. G. F. HOLSTON, M. D., Zanesville, Ohio.

IN the Reporter of December 26, 1866, I reported a case of embryulcia, stating that at that time the lady was again enciente. Throughout her pregnancy her health had been excellent, but the latter half of it she became of so unwieldy a size as almost to be debarred from locomotion, of course becoming somewhat alarmed herself, as well as a source of anxiety to her friends. Jan. 20, I made an external examination, and decided, upon most palpable evidence, that the bulk was owing to a multiple conception.

January 30. Was summoned in haste at 8 A. M, and found that the liquor amnii had been suddenly discharged about half-past 6 A. M., without pain and in large quantities, without lessening her bulk. No other sign of labor present—no examination.

January 31. First pain occurred half-past 6 A. M.—two more before 12 M., slight in character. First examination made 10 A. M. Found the os fully dilated and soft, no hemorrhage, sufficient mucous discharged. Vertex presenting under right pubis. No interference was deemed necessary. The patient had taken a good breakfast, and took a light dinner at noon. About 2 P. M. the pains began to come on, with moderate frequency, but entirely devoid of force, being composed of a number of feeble impulses, while the patient at once commenced giving way, ejaculating feeble moans, and being in a half-fainting condition, with pale face and feeble pulse. There being no evidence of hemorrhage, this state of things was accounted for by the excessive fear, which increased with every pain. Nervines produced no effect. Tinct. of ergot, one teaspoonful every fifteen minutes, was then given, which increased the pain after the second dose; the alarm, however, at each

Digitized by Google

occurrence still broke them up in those frisky impulses, rendering them useless. I administered chloroform to partial anæsthesia, still continuing the ergot; and now, the morbid mental condition being removed, the labor progressed well. About half-past 6 P. M. a fine boy, crying lustily, and weighing nine pounds, as afterwards ascertained, made his appearance, and the good nurse, struck with its appearance of size and vigor, exclaimed, "Nary twins, doctor," which assertion she however was soon forced to retract.

The membranes of the second child protruded and were broken, the ergot given in increased quantities, and the flaccid abdomen of the mother supported by the hands of the nurse. The second child presented the vertex under the left pubis and with very feeble throes, was born alive and hearty a quarter of an hour after the other. It weighed eight pounds.

Now came the chief difficulty. She had taken one fluid ounce of tinct. ergot, and the abdomen had been constantly and carefully sustained; but the birth of the second child was followed by a terrible gush of blood, deluging bed and floor, and almost leaving the patient lifeless. I instantly introduced the left hand into the uterus, and the right on the surface of the abdomen, making strong friction and pressure.

I should have stated that the umbilical cord had been carefully tied with and severed between two ligatures. The placenta (there was but one with two cords) was partially detached. I removed it entirely, immediately reintroducing my hand, as the hemorrhage, though slightly checked, was still flowing at a fearful rate. Twenty grains of powdered ergot with a tablespoonful of the tincture and five grains of sugar of lead in the meantime were poured down the throat of the almost lifeless patient.

My hands inside and outside the uterus seemed to be almost in contact, so thin had the uterine and abdominal walls become from the enormous distension (seventeen pounds of children, beside water and placenta!) The uterus felt like a wet bag. I could now control the bleeding by pressure on the aorta (plainly felt) through the back of the womb, but there was not the slightest effort at contraction.

I now had a hard snow-ball, the size of a small orange, prepared, and immediately introduced it bodily into the womb. This had the desired effect; the patient heaved a deep sigh, shuddered, and the uterus slowly contracted on my hand. I allowed it to be expelled, if the feeble impulse can be so called, carrying a large quantity of clots with it, the right hand still grasping the uterus externally. A bandage and thick compress were firmly applied by 6 P. M.

The patient rallied very slowly. Opiates and alcoholic stimuli from idiosyncrasy disagreed with the patient and could not be employed. She remained very sick and faint till about 8 P. M., when she vomited freely about three pints of fluid, dark, acid, and offensive matter.

I now ordered iced milk, which seemed just the thing; the patient took it with avidity, and every spoonful told, so by 10 P. M. she was considered safe.

The subsequent history has nothing of interest, except the almost entire absence of after-pains and slight lochia, and to-day mother and boys are "as well as can be expected."—*Phil. Med. and Sur. Reporter.*

Digitized by Google

Suspended Development in Twin Pregnancies: By M. M. Eaton, M. D., Peoria, Ill.

In May No. of the Chicago Medical Journal for 1864, Vol. 21, No. 5, page 206, I reported a case that I attended, where a lady was delivered of a fœtus of about two months development, about two hours previous to her being delivered of a still-born fully developed child, at full term.

The past summer, having had another case of similar nature, I thought I would report this also, simply to add an item to accumulating experience on the physiology and pathology of gestation; such cases being of special interest to the pathologist, and not entirely void of interest to the general practitioner.

Case II. Was called, August 14, 1866, to attend Mrs. H., living on North A—— street. Found her to be about twenty-one years of age, native of Illinois, in labor with her first child. She stated that she had always enjoyed good health, and she had the appearance of being in perfect health. On making an examination, I discovered the child presenting to the os uteri, which was dilated about two and a half inches, with a gristly substance hanging from the os, an inch or more in length. This, by more careful manipulation, I discovered to be the hand and arm of a small fœtus. I then made a slight traction in the absence of the pain, and the fœtus was delivered. It was of the size of a three months fœtus, was not decomposed. The funis consisted simply of a slender membrane, without any appearance of blood-vessels. I should state that the amniotic fluid had been previously discharged. The labor now progressed naturally, and a fully developed living girl was delivered within an hour. The mother recovered without any trouble; the child still lives, a stout and healthy child.

Upon delivering the placenta, I could discover no indication of the attachment of the funis of the fœtus to the placental surface. I have these two specimens of arrested development carefully preserved in alcohol. Now, the question arises, what caused the suspension of development in one and not in the other of these twins?—*Chicago Medical Examiner.*

Four Children at a Birth, averaging five pounds each; all living and well, and nursing the mother: By C. S. Faust, M. D., Graham's Turn-Out, South Carolina.

Some few weeks ago, the following letter was received from a graduate of the New York University, dated Graham's Turn-Out, March 7, requesting any remarks which I might think proper to make, in reference to the interesting case which he details. Accordingly, after reading the case, I thought it of sufficient importance to the readers of your journal to give it in full, as presented by Dr. Faust. I have also taken the liberty of adding my comments on the same.

I am, sir, very truly,

Gunning S. Bedford, M. D.

Digitized by Google

GRAHAM'S TURN-OUT, S. C.,
March 7, 1867.

Prof. G. F. BEDFORD, 66 Fifth Avenue, New York:

My Dear Doctor—I have just visited a lady who has been delivered of four healthy male children at one birth. One of the children was born on the 26th of last February, at 11 o'clock. A. M., the other three were born on the following day (27th), between the hours of 6 and 8 o'clock, A. M. There was but one placenta, which was square; cord attached to each corner. The mother is just twenty-five years of age, and is doing well. All the children nurse the mother, and will average five pounds each in weight.

Thinking, perhaps, that you had not seen such a case recently, and especially where all the children were living and doing well, I deemed it my duty, as an old student of yours, to inform you of the fact, as obstetrics was always your favorite branch. Please let me know what you think of such cases, and how often they occur.

I remain yours, very truly,

C. J. FAUST, M. D.

REPLY.

66 FIFTH AVENUE, NEW YORK,
March 20th, 1867.

My Dear Doctor—Your very kind letter of the 7th instant I received with much interest. The case of quadruple birth which you described is, indeed, a remarkable one. You ask me "what I think of such cases, and how often they occur?" Well, I tell you very frankly, that *four* children at one birth, and all "living and doing well," may be regarded as among the extremely rare phenomena of the lying-in room. I myself have never met with an instance of such fecundity—the richest reproductive result in my practice being once, an example of triplets, two of the infants, with the mother, surviving; the third was still-born. It has been my fortune to bring thirty-three twins into the world, one of which cases I will briefly mention, as illustrating the fact that the procreation of twins seems to be peculiar to certain individuals and families. Some years ago I attended a lady in child-bed with twins. This lady I confined three times successively with twins. She married a German gentleman. Her husband was a twin, and his aunt on the maternal side I delivered twice consecutively of two children at each birth.

It would seem that a twin pregnancy occurs in the varying proportion of one in sixty to one in ninety-five cases. Madame La Chapelle records, that in 37,441 births there were 36,992 single deliveries, 444 instances of twins, and but five cases of triplets; and it is an interesting fact that in 108,000 births in the Hotel Dieu, and Maternité of Paris, from the years 1761 to 1826, *there was not one example of quadruple gestation.* In 129,172 deliveries in the lying-in hospital of Dublin, there were 2,062 cases of twins; 20 of triplets; and but *one instance of a quadruple birth.* Haller (Physiologia, 929), observes, "*non raro femina gèminos fœtus parit; rarius paulo tres, neque unquam supra quinque.*

Digitized by Google

Among British practitioners, in 257,935 births, according to Dr. Churchill, there were 343 cases of twins, or about 1 in 75, and 43 cases of triplets, or 1 in 5,561½; among the French, in 39,409, there were 356 cases of twins, or 1 in 108, and 67 triplets, or 1 in 6,568; among the Germans, in 369,080, there were 4,239 cases of twins, or 1 in 87, and 38 of triplets, or 1 in 9,765. Taking the whole, we have 666,424 cases, and 8,006 of twins, or 1 in 83, and 87 cases of triplets, or 1 in 7,443.

The following is presented as the rate of mortality: In 1,298 cases of twins (*i. e.* 2,696 children), 636 were lost, or about 1 in 4; and of 12 instances of triplets (*i. e.* 36 children), 11 were lost, or 1 in 3. The mortality to the mother in twin cases has been computed as 1 in 20.

The general rule is, that in plural pregnancy, each fœtus possesses its own membranes and placenta; and, in this particular, it simulates a single gestation, with the exception that sometimes there will be an inosculation of blood-vessels between the different placentæ. On the other hand, it will occasionally, though rarely, happen that there is but one after-birth for the two children; and it has been suggested by Dr. Tyler Smith, that, in these latter instances, the one ovule has contained two yelks, and two germinal vesicles, as is sometimes observed in the case of birds—one egg with a double yelk producing two individuals. The fœtuses in plural pregnancy are usually smaller than when there is but one child *in utero*, and there is, also, a strong predisposition to premature delivery. When there are more than two, the expulsion is still more apt to be premature, and the children rarely survive beyond a short time. It must, however, be admitted that there are well authenticated exceptional examples of the reverse of this latter rule. Dr. Collins cites, within his own knowledge, two instances of *triplets* having arrived at the full period of utero-gestation, and were reared healthy children.

In the great majority of cases in twin-births, statistics show that the second child is delivered, by the resources of nature alone, from fifteen to thirty minutes after the birth of the first. In 212 instances recorded by Dr. Collins, in which the interval is accurately marked, in 38, it was five minutes; in 29, ten minutes; in 48, fifteen minutes; in 23, twenty minutes; in 30, half an hour; in 5, three-quarters of an hour; in 16, one hour; in 8, two hours; in 3, three hours; in 2, six hours; in 1, seven hours; in 1, eight hours; in 1, ten hours; in 1, twenty-four hours.

In plural pregnancy, it will occasionally happen that one fœtus is healthy, and perfectly developed, while the other bears evidences of an early arrest in its growth, and may be either living or dead. This fact is very satisfactory proof that the lives of the two children are quite independent one of the other. Again, both children may be fully developed, and alive, but one much larger than the other. Cases such as I have just mentioned, may very naturally give rise to the idea of *super-fœtation*, and have been attempted to be explained by some writers exclusively upon this hypothesis; but *super-fœtation*, in my judgment, is not at all necessary for the elucidation of the phenomena—they may exist independently of any such influence. For example: this inequality may be due either to some original defect in one placenta or funis, or in one of the fœtuses; or it may result from compression exercised in utero by one child on the other. There can be no doubt of the occasional operation of either of these influences.

Digitized by Google

A plural pregnancy does not necessarily imply that the labor will not be natural; on the contrary, nature, unless there should be some complication, such as malposition of the fœtuses, will be adequate to accomplish the delivery, through her own unaided resources. The labor, however, as a general rule, will be more protracted, because the uterus, having been subjected to a greater degree of distension, loses in proportion its contractile tonicity, and therefore a longer period is needed for the achievement of the process. And, also, when there is more than one fœtus in utero, the organ cannot concentrate its power as in a single gestation.

The following table, exhibiting presentations of the fœtus in 808 labors with twin children, has been constructed by Prof. Simpson from the returns of twin births, as observed in the Dublin and Edinburgh Lying-in Hospitals, and among the patients of the London Maternal Charity:

Reporter.	Total number of Cases.	Number of Head Presentations.	Number of Pelvic Presentations.	Number of Transverse Presentations.
Clarke	126	73	53	—
Collins	449	309	133	7
Hardy & McClintock	190	123	62	6
Ramsbotham	772	532	221	19
Simpson	30	23	7	—
Reid	48	25	22	1
Total	1,615	1,084	498	33
Proportions among twin children		67 in 100	1 in 3	1 in 49
Proportions among all births		96 in 100	1 in 31	1 in 224

And now, my dear Doctor, I must close this letter, trusting that it will not be altogether without interest to you. You certainly have accomplished something to be proud of; and I am much pleased that you have added to your little State of South Carolina *four males*.

Believe me to be, most truly yours,

GUNNING S. BEDFORD, M. D.

—*Correspondence New York Medical Record.*

Spontaneous Expulsion of a Uterine Polypus.

AT the meeting of the *Société Médicale des Hôpitaux de Paris*, held 9th November, 1866, M. Bemutz presented a report of the following case. On the 11th September a woman age thirty-six years, a shoe binder, affected with a profuse metrorhagia, which had occurred several times within a year, and had obliged her to enter the hospital, was admitted

Digitized by Google

into the Pitié and placed in charge of Dr. Bemutz. This woman first mensturated at sixteen years, but had been irregular both before and after her marriage, which took place at twenty-four. She had one child at full term, and two abortions, one at three and the other at four months. Five years ago she commenced to feel a sensation of weight in the uterine region which has never entirely ceased since. Two years ago she began to experience loss of blood, so abundant that she entered the Hotel Dieu under M. Barth, who diagnosed fibrous tumors of the uterus, and she went out after a few months relieved. She entered the Pitié at the end of July, '66 under M. Sisedey, with violent hæmorrhage, for which ergot was prescribed. The use of the ergot was followed by violent pains like those of delivery and the medicine was stopped, the hæmorrhage continued, less in quantity; the uterus was of the size the fifth month of pregnancy, the neck of the uterus was not softened or dilated enough to admit the finger. On the 3d November, after experiencing very violent uterine pains in the night, she complained of a falling of the uterus. On examination there was discovered in the vagina, descending to the vulva, a cylindrical body, of a pale rose color, smooth; and which was found, by digital examination, to extend through the os uteri, which embraced it firmly; this tumor, on the morning of the 5th November, was entirely expelled, and in a few weeks the patient was discharged well. The tumor was five and a half inches long, two inches in diameter, and was composed of muscular fibres and connective tissue.—*Union Médicale, December* 24, 1866.

Face Presentation in the Mento-Posterior Position, with remarks upon the Treatment and the Mechanics of a Case: By STEPHEN RODGERS, M. D.

THE following history will, I presume, be of practical interest, relating as it does to the management of one of those unusual face presentations, of which Churchill says, that Smillie, and other of the older writers, speak as possible to be delivered, but that, in his opinion. "a moment's examination will show that this is mechanically impossible." He, therefore, distinctly declares his disbelief in the accounts of those writers who describe successful deliveries of cases wherein the head "emerged from the lower outlet with the chin towards the perineum."

Cazeaux also says that delivery, at term, in this position, is impossible, and speaks of the conditions of this presentation as "constituting one of the most serious difficulties of the obstetric art."

The most modern summary of our knowledge upon this subject, I find in a paper read before the Obstetrical Society of London, in 1865, by Dr. Braxton Hicks, upon Face Presentations in the Mento-Posterior Position. It reads as follows:

"Although, in a majority of cases, the chin rotates forward during

Digitized by Google

the descent, in face presentations, whatever was the position it occupied originally, yet in some rare cases the chin passes through the outlet obliquely, while in others the rotation can not be accomplished at all, either by nature or art. Under these circumstances, in some very rare instances, delivery takes place spontaneously, though the greater number of this rare class require the use of the forceps, by the means of which, either the chin over the perineum, or the vertex beneath the arch of the pubes, might appear first."

Dr. Barnes, the President of the Society, remarked on that occasion, that inasmuch as Dr. Hicks had, by the aid of the forceps, accomplished the delivery of a living child in this position, he thought it "probable that the pelvis was large in proportion," and added, that "in cases of due relation of pelvis and child, birth with the chin posteriorly was almost impossible; for in proportion as the face descended, there was a rapidly widening base of a wedge, formed by the occiput bent back upon the child's trunk, which could not pass the pelvis."

Mrs.——, multipara, aged about 30, having passed several confinements without difficulty, had, out of motives of economy, employed a midwife to attend her on this occasion. After suffering the pains of labor for about twenty-four hours, without any prospect of their termination, she was persuaded by friends to send for me, though the midwife assured her that it was only a "dry labor," and would terminate favorably in time. I found the patient suffering frequent and exhausting pains, with a countenance expressive of the agonies of desperation; the pulse about 120, and the external genitals hot, and rather dry.

A careful digital examination satisfied me that the anterior fontanelle was behind and to the left of the symphisis pubis, and that the chin was low down over the right sacro-iliac synchondrosis. Placing the woman upon her knees and elbows, I endeavored, during the intervals of the pains, by introducing my outstretched fingers under the face and chin, to raise the head up out of the pelvis, with a view of bringing down the occiput by external counter-pressure, and thus convert it into a first cephalic presentation. This effort, however, was fruitless, owing to the resistance of the sensitive and irritable uterus. So far as could be ascertained, this condition of things had existed the better part of twelve hours without any perceptible change. The uterine contractions had wedged the head and upper thorax down into the pelvis to the utmost degree of pressure, and had extinguished all signs of fœtal life.

Without delay I called Dr. Wm. M. Chamberlain to my assistance and counsel. A careful examination enabled him to confirm the diagnosis, and he at once approved the proposition to convert the presentation into a first occipito-anterior, by the method presently to be described, and then to wait for the uterus to accomplish the delivery. The patient was then placed upon her back crosswise of the bed, with her feet resting upon chairs, in the position usually chosen for the employment of the forceps, and Dr. Chamberlain administered chloroform to profound anæsthesia. I then introduced the open right hand along the posterior wall of the vagina till the fingers reached the chin, and then, to give greater mechanical advantage, the hand was closed, and the second row of phalanges and carpal portion of the palm placed against the chin, and mouth, and face of the child, and firm continuous upward pressure

Digitized by Google

maintained by it, for a period of several minutes, with the result of raising the impacted head so far out of the pelvic cavity that external counter-pressure with the left hand upon the occiput, now felt prominent above the pubes, threw the posterior portion of the head down on to the brim of the pelvis, thus converting it into a vertex presentation. To the best of my judgment, I should say that the chin had reached to within about an inch of the level of the upper strait before the external counter-pressure was employed. This external downward pressure upon the occiput, which effected the final change of presentation, was very moderate indeed; showing that the head must have been well nigh out of the pelvis. Fearing a return of the head to its mal-position, I maintained moderate pressure over the super pubic region, had the patient placed in bed, and suspended the chloroform. Consciousness returned in about the usual time, and with it the uterine contractions; the head advanced rapidly in the *second vertex* position, and the labor was accomplished in a prompt, easy, and in all respects normal manner, in about half an hour. Still further is evidence that the head must have been about out of the pelvis before its rotation took place, is the fact that it was also turned latterly from one acetabular region to the opposite one, becoming a second vertex presentation instead of the first, as it would have been if it had remained in the direction of the original position.

It may be well to state that this is an operative procedure requiring first-class muscular endurance, quite as much as any obstetrical operation with which I am acquainted, and I doubt if it can be accomplished without the relaxing and quieting influence of deep anæsthesia. In this case, all paroxysmal muscular resistance on the part of the uterus was perfectly controlled by the chloroform, nor did the pains return till its influence had nearly entirely passed off. The child was full size, estimated to weigh between nine and ten pounds; and there was, therefore, every reason to believe that Nature had exhausted her resources and strength in futile efforts to force it through the pelvis. The amount of tumor above the pubes, and the degree of impaction in an oblique position of the head in this case, convince me that Dr. Hodge's suggestion of rotation in the pelvis was entirely impracticable; and as to any lateral movements, with the view of bringing the chin around under the pubes, Dr. Chamberlain agrees with me, that they also were utterly impracticable. The choice, then, lay between the violent delivery by forceps—which I apprehended would also have been impracticable—craniotomy, and the proceeding which was practiced; and I leave the profession to decide upon the respective advantages and merits of the three.

Had this proceeding been adopted early in the labor, there can be no reasonable doubt that the child would have been saved, for it is not one which inflicts any violence upon any vital part of the child; and even the force necessary to effect the rotation would be trifling in the early stages of the labor, when compared with the impacted state of the head in this case.

Whether the uterus would always be relaxed and quieted by the chloroform or any other anæsthetic, as it was in this case, may be a matter of well founded doubt; but, in my comparatively limited experience, I have always seen uterine action totally suspended by *deep anæsthesia*.

Digitized by Google

Another fact in this case points to a mechanical impossibility of delivery, viz: the prompt and easy delivery as soon as the presentation was corrected. A shoulder presentation could not have afforded a more striking contrast and change to the possible. The opposing circumstances of force and resistance to which this fœtus was exposed during the prolonged uterine efforts to deliver, may be comprehended by signs upon the cadaver, which Dr. Chamberlain discovered and called my attention to. The neck had been so stretched and bent backward, that the integument covering the prominence of the thyroid region had given way, producing a considerable laceration in a transverse direction, and the sterno-cleido-mastoid muscles were so stretched as to be apparently destroyed; and, indeed, the whole neck had the appearance of being very considerably elongated. The upper chest of the child, meeting with resistance at the brim of the pelvis, thus arresting the progress of the body, the adaptability of the head to the shape and size of the pelvic passage, would, as a consequence, throw most of the expulsive force upon it, *elongate it and push it forward.* The degree of elongation, and the distance to which it would be pushed, must be entirely controlled by the resistance, which, in this case, was *through the neck.* I have not the least doubt, therefore, that had the neck been severed, delivery would have been accomplished by the uterine efforts alone, first of the head, secondly of the body of the child.

The woman recovered with remarkable rapidity, and without an untoward symptom, and on the fourth day was found walking about her room.—*St. Louis Medical Reporter.*

Midwifery Statistics of Sweden.

THE statistics for 1862, the last which have been published, inform us that of the 134,060 mothers delivered of children during that year, 225 had to be delivered with the aid of instruments, being one instrumental delivery in every 595 mothers. Of these 225 instrumental deliveries, 208 were by the forceps alone, bringing into the world 210 children, of whom 139 were living, and 71 dead, In the remaining 17 instrumental deliveries, cutting instruments had to be used, which sacrificed the lives of all the children.

Of the 208 women delivered by forceps, 3 died; being one death for every 69.3 forceps cases. Of the 17 women delivered by cutting instruments, 3 also died; being one death in every 5.7 mothers so delivered.

Of the 208 women delivered by forceps, in 124 it was their first child. 20 of the women delivered by forceps were under 25 years of age; 54 were between 25 and 30 years; 101 were between 30 and 40 years; and 33 were above 40 years of age.

Of the 17 deliveries by cutting instruments, in 6 cases it was their first child. 2 of the women were under 25 years of age; 4 were be-

Digitized by Google

tween 25 and 30 years: 9 were between 30 and 40 years; and 2 were above 40 years of age.

The women in Sweden are attended by midwives, who must undergo an examination as to qualification, and obtain a license before being allowed to practise. In 1862 there were 1639 licensed midwives in Sweden, of whom 118 were in the city of Stockholm; and during that year, 79 women received licenses to practise simple midwifery after examination; and of them, 54 were found competent to use instruments, and were licensed accordingly,—*Edinburgh Medical Journal.*

Case of Labor, complicated with Rheumatic Fever: By N. J. HAYDON, M. D.

MRS. F. B——, aged thirty, sent for me on the evening of Dec. 7th, 1865. She was immediately expecting her confinement of her fifth child. On this evening she was suddenly seized with a violent rigor, attended with intense headache and very considerable difficulty of breathing. On the rigor passing off she felt some labor-pains, and there was a slight, but colored vaginal discharge. The bowels were loaded. She took some castor oil, and, after free alvine action, some Dover's powder. There was no return of the rigor, and the headache left her.

Dec. 8th.—Eleven A. M.: She passed a restless night, but towards morning the labor-pains quite subsided. She now complains of great pain in her arms and legs; her knees, ankles, and wrists are much swollen, tense, and acutely painful.

Other parts of the body were successively affected. She had a loaded tongue, quick pulse, profuse sour sweats, slight headache, much thirst, and no appetite.

These symptoms, together with great pain and swelling of the hips and shoulders and across the loins, continued unabated until the 13th; on which day, after a short and in all respects a natural labor, she was delivered of a fine, full-grown, healthy, living female child. The only difficulty experienced in the labor was, the entire helplessness of the woman herself, and the severe pain that the very least motion caused her.

From the effects of her confinement she rapidly rallied, but the pain and fever of the rheumatism continued unabated until the 19th, when I adopted the blister treatment, applying a blister (four inches long by two and a half inches wide) in the inner and outer aspect of each knee and ankle, and one over each wrist and each shoulder—twelve in all. They rose well. Warm bread-and-water poultices were applied. From this moment the pains in the joints and the fever disappeared, and there was no recurrence. (To use the woman's own words, April 15th, 1867: "I never felt the pains after, sir.")

Digitized by Google

She now, however, had a new pain. The left knee became much swollen, and, if moved, very painful; but unless it was either bent or rotated she experienced no pain. Considerable swelling extended up the thigh, especially on the inner part, from the knee to the groin; very painful when touched or moved. Over this line of pain and swelling I applied a long narrow blister, which gave great and immediate relief; the patient slept well, and had a good appetite. As all motion increased the pain in the knee, I applied a long splint under the leg and thigh, so as to keep the knee at perfect rest; and used a liniment composed of soap liniment, chloroform, tincture of opium, strong mercurial ointment, olive oil, and compound tincture of iodine, gently rubbing-in a teaspoonful three times a day, and keeping the joint and limb swathed in flannel wrung out of hot water.

She remained in bed, the knee gradually getting better, for eleven weeks; she then got out of bed, resting her leg at a right angle with her body. After remaining in her bedchamber for three weeks more, she got down-stairs, and was able to walk a little with the aid of an arm and a stick. On May 3d she went out of doors, walking without help; and she has continued to get better ever since. She is now quite well. Her left knee is, however, a very little larger than the other, and this may be to some extent accounted for by the fact that eight years before her attack of rheumatism she had some ailment of her left knee (most likely, from her description, it was "housemaid's knee"), attended with much pain, swelling, and formation of matter, which had to be very freely opened. She was then laid up for six weeks, and has had rather large knee ever since.

After removing the wooden splint from the back of her leg, I applied a well-padded splint made of butt-leather behind the knee, to prevent too much motion and to afford support; this was continued for many weeks. Previous to the application of the blisters the treatment had been bicarbonate of potash and Dover's powder, swathing the painful joints and limbs in flannel, occasional small quantities of castor oil, and the use of blankets instead of sheets in her bed. After the pain and fever were departed, as a tonic we used iodide of iron, and prescribed good diet.

I am quite at a loss to account for this patient's attack of acute rheumatism. So far as I know, she had not been exposed to what are generally regarded as the probably exciting cause, such as cold or wet or poor living. Rheumatic fever is a frequent disease in this district, but this woman had only lived in the neighborhood about six weeks, having come from the sea-coast. I generally average from fifteen to twenty cases of acute rheumatism in the year. Since 1860, I have, as a rule, employed the blister treatment, and it has been attended with great success.—*Lancet*

Digitized by Google

A Case of Imperforate Hymen, with Retained Menses: (Under the care of Mr. H. THOMPSON.)

THE retention of menses by mechanical obstruction is so grave a condition, and operative interference for its relief is so often attended with serious results, that the record of successful treatment cannot fail to be useful and interesting.

We are indebted to Mr. Hopgood, dresser, for notes of the accompanying case:

C. A. L——, aged sixteen, was admitted on March 4th, 1867, with the following history: She has never seen any menstrual discharge, but says she has felt pain over the genital organs, down the thighs, and also a little in the back at different times, lasting for about a week, and that during that time the labia were swollen. She first felt these symptoms about two years ago, and subsequently about every five or six months, the last time being at Christmas, remaining ten days. She says the stomach was then very hard.

Upon examination through the rectum a large tumor was felt pressing from above, and resembling somewhat the pregnant uterus. Upon opening the labia the orifice of the vagina was found occluded by a thick membrane, resembling the lining of the vagina. Upon percussing the abdomen there was considerable dullness over the pubic region, extending upwards for nearly four inches towards the umbilicus. The external parts were naturally formed, but the pelvis and genital organs were somewhat smaller than usual. She was unable to pass urine until the catheter had been used twice, after which she passed it herself.

March 6th.—Being placed under chloroform, a careful examination was made, and the urine having been drawn off, Mr. Thompson pierced the membrane with a trocar in the direction of the vaginal canal, a finger being previously introduced into the rectum. About eight ounces of semi-fluid material, of a dark color and very thick consistence, were drawn off. The canula was left in, and a bandage placed round the abdomen.

8th.—The canula slipped out during last night, and the opening being closed, another could not be passed. There was a little pain in the abdomen during the night, relieved by a hot poultice. In the afternoon Mr. Thompson introduced a larger trocar, and twenty-six ounces of fluid were drawn off through the canula, the tube removed, and the catheter tied in; a compress and bandage were placed over the abdomen.

9th.—Complains of great pain in the abdomen, which is increased by pressure; the genitals are swollen and tender; there has been no more discharge. Hot poultices were applied, and twenty minims of tincture of opium, together with half an ounce of brandy, were given, and repeated.

10th.—The pain is much better this morning, but still there is considerable tenderness about the parts. Was sick last night. Bowels have not been open since the 5th. To have a warm enema.

11th.—Bowels acted freely this morning after the enema. Pain and tenderness less. To continue the poultices.

13th.—Pain nearly gone. To discontinue the poultices. Slept very well last night, and the appetite moderately good. There has been a little discharge by the side of the catheter.

Digitized by Google

15th.—The catheter was taken out of the opening and a director introduced, when a quantity of very offensive puriform matter passed along it. Two hooks were now passed through the edges of the opening, and a star-shaped incision made, after which the finger could be passed. Upon examination there was no os uteri to be found, but the finger went into a cul-de-sac somewhat wider at the sides than at the entrance. A sponge-tent was introduced, and left in eighteen hours.

16th.—The sponge-tent was removed this morning. There was very little discharge after removing the tent. Considerable pain for two or three hours after the introduction of the sponge-tent. The parts were well washed out with Condy's fluid, and a piece of lint dipped in lead lotion applied to them.

17th.—Another sponge-tent introduced for six hours.

18th.—Another sponge-tent introduced this morning, the parts being first well washed out with Condy's fluid. The plug was taken out last night. There is a swelling in the left flank, about the size of an orange, extending over towards the middle line, tender upon pressure, and dull on percussion; with some symptoms of fever.

19th.—The swelling is much increased in size, being about four inches above the pubes, and crossing the abdomen nearly to the opposite side. The pulse rapid, weak; much general fever. No sponge-tent to be applied, but hot poultices to the abdomen.

20th.—The pain has not been so severe; the tenderness and swelling of the abdomen are less. Much fluid was passed by the bowels during the night, the matter being of a yellowish-brown color. The appetite is not so good; the surface of the body is dry and hot; the face flushed; the tongue slightly furred, with red papillæ upon it. The pulse small and weak, 100 per minute.

21st.—The discharge by bowel diminishes, and the swelling is entirely gone. The dullness has disappeared; the pain and tenderness over the uterus and in the flank also.

22d.—Very little tenderness to-day; no pain; the appetite is much better. There was a little discharge from the vagina.

26th.—There has been a little discharge every day since the 22d; but it has decreased in quantity up till yesterday, when it entirely ceased. There was a little again this morning.

28th.—The abdomen is now soft, and not at all painful. There has been a little more discharge from the vagina. The genitals are less painful, and the vagina admits the little finger. The bowels act properly.

April 3d—There has been a considerable quantity of discharge during the night. Upon making pressure over the seat of the uterus and in the left flank, there is a discharge of thin white matter from the vagina; about half an ounce escaped this morning by such pressure being made.

9th.—The discharge from the vagina has gradually lessened since the 3d, and this morning none is perceptible. There is now no pain, tenderness, heat, or swelling about the abdomen; the orifice of the vagina is tender, and admits the tip of the little finger without causing pain, but if it be passed beyond the orifice it causes slight pain. She is now able to walk about, and feels stronger than she did upon admission. The appetite is good, the bowels regular, the tongue clean, and she sleeps well at night. There is no discharge from the vagina.

10th.—Left the hospital to day.

Digitized by Google

Mr. Thompson remarked that he had adopted the mode of evacuating the retained menstrual fluid by slow percolation, rather than by permitting its rapid exit, on account of the large quantity—at least two or three pints—which existed. There was no question that the large and rapidly formed tumor which appeared a few days after the complete evacuation of the menstrual fluid, accompanied as it was by symptoms of almost an alarming nature, was an abscess, which subsequently opened into the bowels, and discharged its contents by that channel.—*Lancet.*

THERAPEUTICS AND TOXICOLOGY.

Remedial Uses of Prunus Virginiana: By Dr. C. Allbutt.

[From numerous experiments and observations, Dr. Allbutt has developed some of the valuable qualities of the *Prunus Virginiana*, and he shows that in some cases of cardiac disease, which need a cardiac sedative, and when digitalis either fails to relieve or cannot be tolerated, that the *Prunus Virginiana* may be used with the most beneficial results. The author generally uses the tincture, a preparation not found in the United States Dispensatory; the fluid extract might be substituted, and perhaps with some advantage.—*Ed.*]

It is in mitral regurgitation perhaps, that I find the wild cherry most valuable. Here, a slight maladaptation may cause most painful disturbance. It is too clear that to increase the propelling power only in these cases, can but increase also the suffering by making the reaction more violent upon organs already over-taxed. Could we but strengthen the right side of the heart, leaving the left ventricle intact, our task would be easier. To strengthen one chamber, however, is to strengthen all; and moreover, we cannot trust the tricuspid valve at a push as we can the mitral. As we may not then increase the power, we must diminish the weight. A recumbent position must be observed, and a careful treatment by baths, light purgatives, diuretics, dry cupping, etc., must be set on foot.

Steel is not often admissible in any stage of this disease. An excellent and favorite remedy exists in the foxglove, often and usefully aided by iodide of potassium. It is in carrying out the good effects of the foxglove that I find the wild cherry also so valuable in these cases.

On turning over the notes of twenty-eight cases of mitral disease, carefully observed throughout, I see, however, that one in five found some difficulty in supporting digitalis, however prescribed. On the

Digitized by Google

other hand, I have seldom seen the slightest discomfort follow the use of *Prunus Virginiana*. I shall report a few cases out of many in which I have obtained a good result from it. Did I pour out all the contents of my note-book before you, it would be sufficient for proof of its virtues. I select, therefore, a few well marked cases by way only of illustration.

Miss E. W., aged 27, subject to palpitation on exertion for eighteen months, also to cardiac oppression, spasmodic dyspnœa, occasional dim vision and fainting sensations; slight cough of some weeks standing; occasional pain and puffiness about the ankles, towards evening; bowels irregular; urine often scanty and high colored; has spit a little blood once or twice. Consulted me last August on increase of these sufferings. I found mitral regurgitations; her complexion was dusky; her lips blueish, her pulse small and irregular.

Her father died about the age of forty-five, of heart disease. Ordered salines and diaphoretics to relieve congestion; bowels kept free. ℞ tinct. pruni. virginianæ, ♏ xx.—xxx, five or six times a day, as required. The next day but one, on seeing her, she expressed to me much gratitude for the "drops," which gave her marked relief. After omitting the other medicines, the drops were continued, and she improved daily. The heart became much more quiet, the pulse more certain and full, the cough disappeared, and she became able to go up and down stairs without any great dyspnœa. ℞ potass. iodid, gr. iv; sp. æth. nit.; tinct. aurant.; aa ʒss., infus. pruni virginianæ ʒvij.; three times a day. From this time her improvement became rapid, and in seven weeks from the beginning she undertook a somewhat fatiguing journey, with my consent.

The next case is from my out-patient list at the Hospital. J. G., aged 45, mill-hand, complains of cough, occasional blood spitting, and of wearing pain in left arm; also of palpitation, dyspnœa, and occasional slight anasarca. There is decided, but not unmanageable venous congestion of the viscera, etc., a poor and irregular pulse, and a "mitral regurgitant murmur." ℞ infus. pruni virginianæ ℥j., three times a day. The week following, the patient paid a spontaneous tribute to the power of the medicine, and in six weeks had regained considerable ease.

I might tell you of twenty such cases. In nearly all, the patients were left to give their own opinion, and in addition to ease at the heart, they often expressed much pleasure at the restoration of appetite. Loss of appetite, probably due to congestion of the capillaries of the stomach, and consequent suppression of gastric secretion, is a frequent symptom of heart disease affecting the venous flow. * * *

Now, I have no expectation that the wild cherry will be found to have the wonderful remedial power of digitalis in all cases, and I should not be justified, at a time of great danger, in neglecting a remedy known for one of unknown virtue. But the immediate danger being past, I have begun a course of the wild cherry, combined with squills, as a diuretic and expectorant, and the patient made a very good recovery. It is not for a sudden salvation, but for purposes of gradual restoration, that I use the wild cherry.

It is unnecessary for me to relate any more of the many cases of mitral disease, which I have treated with this medicine, and which for the most part differ only incidentally. Let me now mention two cases

Digitized by Google

out of three or four in which I used the wild cherry in disease of the great vessels. It will be readily seen that it is admirably adapted for the long sedative treatment of such cases, and in fact, it has seemed to me to have almost a marvellous effect for good when distress arises from such a cause. The first case is a very interesting one on many grounds. R. W., of middle age, and going about his daily business, consulted me in the spring of 1865, for nervousness. Of late he had eschewed doctors, for they told him that he was hypochondriacal and vaporish, and urged him to improve, first his mental and then his bodily condition. Meanwhile he took more than one course of "tonics," which, as he declared, made him worse. He could give little account of himself, beyond the great depression of spirits to which he was liable. He apprehended evil without reason. He rested ill at night, and awoke unrefreshed. His appetite was capricious, though he had not lost much flesh. On the slightest noise he started in his chair; he almost shrank from being spoken to; and the race of barrel-organ grinders made his life a burden to him. In the fresh air and the perfect stillness of the country he found most relief; and from this fact, I suspected that the symptoms were not the results of morbid imaginings. Such symptoms solitude intensifies. He was free from anxieties in business, dissipating habits, family trials, and the like. More and more I became convinced that some organ was in fault, and that organic disease lay somewhere. A straightforward, intelligent man, or a well-educated and sensible girl does not often complain of this kind of nervous instability without some discoverable cause. To call such cases hysteria, is to confess our ignorance. Change within the head was unlikely in this case, the motor and sensory functions being perfect, and the mind unimpaired. I suspected disease in the abdomen, implicating the sympathetic system, but did not suspect what I discovered, namely, aneurism of the aorta. On examining the chest, my patient said with a smile, "I think, sir, you will not find the mischief there." Yet, there was slight but decided hypertrophy of the heart, occasional but certain intermission in the action of it, and a varying strength of stroke. These latter symptoms were to be detected in the pulses when forewarned, but might otherwise have been easily overlooked. I now found some dullness about the level of the third rib, near the sternum, on the right side of it, and a slight but unmistakable murmur at the same place coincident with the beat of the heart. The patient now spoke of a long standing but not intolerable pain between the shoulders, and occasional palpitations. These feelings however, as being the least obtrusive, he had merged in the general expression of aches, weakness and nervousness. This case was a valuable lesson to me. I took it up some time after my brethren had been consulted, and when the disease was in a more advanced stage. Had I examined the case when they did, no doubt I should have concurred with them in the hypochondrical theory. Now, in advance of my own expectations, I gave this patient great relief with the wild cherry. It calmed the nervous irritability, it made the appetite better and steadier, it stilled the heart, it procured, or seemed to procure, quiet slumber at night. It is in such a case as this that the new remedy has such an advantage over the foxglove, seeing that it may be given, (as far as I know) for any length of time and without special need of watchfulness.

Digitized by Google

Unlike foxglove, the wild cherry may be prescribed for any chance patient, knowing that he cannot harm himself much with it, and feeling pretty certain that it is not likely to disagree. On the other hand, it is far inferior to foxglove at a push, and I still give the latter to all patients brought into the hospital half choked with thoracic and abdominal congestions. The foxglove in such cases often acts like a charm, and does what no other known medicine can attempt. When the corner is turned, comes the wild cherry to aid in the long process of restoration. Its use is not so much to regain equilibrium as to give it stability when regained.

I shall now add some observations on the value of *Prunus Virginiana* in a few other diseases. In chronic bronchitis, depending upon or accompanied by valvular disease or dilatation of the chambers of the heart, I have found it of great service. In such cases I always found my best remedy in digitalis; I now find the *Prunus Virginiana* does nearly as well—I have often thought quite as well—in calming the cough and so-called asthma, and it is infinitely preferable in that it also improves the appetite and strength, and may be given continuously and fearlessly. These patients are among the crosses of the hospital physician; incurable, but capable of passing relief, they hang on, winter after winter, gasping forth their weekly tale of inevitable sorrows. One of these unhappy old fellows, whose daily food was gin and sulphuric ether, and every one of whose weeks was to have been his last for many a month, pleaded so hard for some medicine of supernatural virtues, that from whim rather than calculation, I ordered him twenty drops of tincture of wild cherry every two or three hours. The old gentleman did not appear for a fortnight; then he appeared as usual, and I had resigned myself to the invariable beginning—"Eh, sir, I thought last week I should have (when, to my amazement he concluded) recovered altogether; them drops made me over again, and I thought I should'nt a come no more, but they only lasted me out ten days, and now I'm as bad as ever." It is needless to say that he was supplied with an infinite series of drops, and every week he invented some new form of panegyric upon their virtues. He has long withdrawn his injurious opinions of the science of medicine, and of my skill in particular; he has magnanimously overlooked the illimitable iniquity of the poor-law guardians, and at last he informed me that he was about to begin life afresh as a retail dealer in oranges. In all seriousness, I believe that any one who gives the tincture of *Prunus Virginiana* in these forms of bronchitis will not be disappointed. Bronchitis depending upon scrofulous, gouty, or any such affection of the mucous membrane of the lung, has nothing in common with the former disease except coughing and spitting, and these cases have their own remedies. I have not found the wild cherry infusion of much service in the dyspepsia of phthisis—that is, of no more service than any other vegetable bitter. It is valuable, however, in these and all other cases where much nervous susceptibility is present with vascular irritability. Generally speaking, I use the infusion when I want the so-called "tonic and stomachic" effects of the medicine, and the tincture when I want more especially to relieve distress in the chest. I think the distinction is worth noting.

In conclusion, I may say that in many cases of the kind remediable by *Prunus Virginiana*, I have tried other vegetable bitters with hy-

Digitized by Google

drocyanic acid added. I have not found this imitation to answer, and I believe therefore, that the good effects of the drug depend upon something more than the prussic acid it contains. I shall refer those who wish to gain some knowledge of the botanical and chemical character of the *Prunus Virginiana* to the excellent description by Professor Bentley, published by him in the new series of the *Pharmaceutical Journal*, at page 97 of volume V. My sincere thanks are also due to Mr. Reynolds (of the firm of Harvey and Reynolds, Leeds) for his extremely valuable aid in this, as in all instances where I have investigated the properties of drugs. I am sure he will gladly answer any question concerning the *Prunus Virginiana* and its preparations.—*Medical Times and Gazette.*

Swinging as a Remedy.

BROWN-SÉQUARD recommends the use of the swing as a preventive of nervous paroxysms which occur periodically. In certain cases of hysteria and epilepsy, he has prevented the paroxysm by engaging his patient in violent swinging at the first indication of the accession of the fit.—*Druggists' Circular.*

Cryptopia, a new Alkaloid Discovered in Opium.

IN the Pharmaceutical Journal and Transactions (London: April number), there is an interesting article with the above heading, by T. and H. Smith, manufacturing chemists; the discovery seems to be, as usual, the result of accident, followed by close and patient observation and experiment. The new alkaloid differs widely from the preparations already known, so far as its chemical characteristics are concerned, but no mention has been made of its therapeutical application; indeed we can hardly expect it to come into very prominent notice, on account of the extremely small quantity yielded by opium; the discoverers having only obtained five ounces in the form of muriate since they commenced their researches, and between four and five tons of opium have been operated upon to obtain this small amount.

Cannabis Indica, as an Antispasmodic: By GEORGE P SALMON, M. D of New Labanon, N. Y.

MARCH 23d, 1866, I was called to see C. W. H., aged 65. Found him suffering from a very severe attack of typhoid pneumonia. Tonics,

Digitized by Google

stimulants and expectorants were prescribed. The case progressed favorably until the ninth or tenth day, when the vital powers began to show a greater disposition to sink, and the following more marked typhoid symptoms were developed; typhus apthoideus of the pharynx and fauces, accompanied by great exhaustion, a feeble pulse, and very severe singultus.

I speak of the above remedy as an antispasmodic, for the relief of the latter symptom. This distressing and extremely prostrating feature of the case continued, almost without cessation, for five days and nights. Ether, chloroform, musk, castor and assafœtida, were employed. In connection with these, a blister was applied to the epigastrium. Also a bandage around the diaphragm.

Dr. C. was now called in consultation, who thought the hiccough was caused by the accumulation of carbonic acid gas in the intestines. He suggested that an enema of chloride of soda should be given the patient. This was administered without producing the least perceptible effect. I was now induced to make a trial of cannabis indica. Tilden's extract was ordered to be given the patient in eight drop doses, every hour. The hiccough soon subsided, but returned during the night. Again the hemp was administered, and again the symptoms were discussed and kept in subjection, by the use of this remedy. Patient made a good recovery.

I have used the hemp to prevent paroxysms of asthma, with good success; and have found it a valuable agent in hysteria, and in the treatment of females, while undergoing local treatment, to allay great nervous irritability of the system, produced by the various forms of uterine disease. I consider cannabis indica one of the most serviceable agents in the materia medica. It is deserving of more credit than it has received. —*Journal of Materia Medica.*

Bran Biscuits in Diabetes.

Dr. Arthur H. Hassall announces in the *Lancet* of June 9th, 1866, the entire unfitness for food for diabetic patients of the prepared bran and biscuits now sold. The method of freeing the bran from starch now in use, consists simply in washing and pressing it. Inasmuch as the starch granules are chiefly contained in the cellular tissues of the bran, it is obvious that this process removes only a small portion of the starch. This may be proved readily by adding a drop of tincture of iodine to the bran or biscuit made therewith, when it will instantly become of a deep bluish black color. The amount of starch actually present may be ascertained by converting it, through the action of dilute sulphuric acid, into a glucose or grape sugar, which may readily be washed away and measured. Analyses made on this plan furnished the following results: in one hundred parts of unprepared bran were found 45.65 of

Digitized by Google

starch; prepared bran, 44.60 per one hundred parts; bran biscuits 28.20 per one hundred parts. These figures demonstrate the accuracy of the statement made above, and also serve to explain the frequent disappointment which is experienced in the use of these articles of food by diabetic patients. The method employed in the analyses furnishes a means of preparing this article of food in such a way that it shall be absolutely free from starch, and no difficulty is found in carrying out this process on a large scale.

In a subsequent communication to the *Lancet*, of June 30th, Dr. Hassall suggests another process for ridding bran of its starch, by conversion of the starch into dextrine through the action of *diastase*. This method of purification is so easy and perfect that it leaves nothing further to be desired, and the results, so far as the color and composition of the bran are concerned, are certainly superior to those obtained by sulphuric acid. Dr. Hassall disclaims all intention of impugning the honesty of the manufacturers of the bran biscuits and states that the radical fault is in the processes which they have adopted, and which they have been taught to believe were effectual.—*Detroit Review of Medicine and Pharmacy.*

On Syrup of Chloroform: By Mr. T. B. Groves, F. C. S.

* * * It was in attempting the preparation of chlorodyne, with a view of satisfying myself as to its reported difficulty of accomplishment, that I met with the facts forming the purport of this communication.

It has been proved by experiment that chloroform is soluble in water to the extent of two and a half minims per ounce, and that if a spirituous solution of chloroform containing a large proportion be added to water, the excess of chloroform soon finds its way to the bottom of the liquid, with which no amount of shaking will cause it to mingle sufficiently well to enable the dose to be accurately proportioned. * * * It occurred to me that if chloroform were reduced to exactly the same specific gravity as the syrup employed, by the addition of a liquid lighter than itself, mixture once effected would be permanent; there could apparently be no tendency to separation if the theory admitted of being practically carried out. It was obviously a *sine qua non* that the lighter liquid should not be liable to be abstracted by the syrup, or the chloroform would inevitably be precipitated in the globular form, as in the case of chloric ether.

I have succeeded in making such a mixture by reducing the specific gravity of the chloroform by means of ether, and shaking them with a definite amount of syrup. The chloroform manifests no tendency to separation, even when present in the proportion of one-eighth, but a better form is that containing one-twelfth.

Digitized by Google

The modus operandi is as follows :—Put into a twelve-ounce bottle one ounce of chloroform and about three drachms of ether; to the mixture add the same volume of the syrup to be employed; observe carefully the disposition of the fluids, the chloroform and ether will probably sink, then add *guttatim* more ether until the two liquids, on being shaken together, appear indifferent as to their position in the system; finally fill up the bottle with syrup, and shake well for a minute or two.

The syrup should not be too dense, or it will be difficult to impart to it sufficient agitation to ensure the complete commixture of the fluids. The syrup should be composed of gum and sugar, of honey or treacle; syrup of sugar does not answer well, apparently on account of lacking viscosity.

The syrup thus formed has the same physical properties as chlorodyne, and like it, is readily miscible with water in any reasonable proportion, (one to seven), and soluble in the water where the proportion of chloroform is within the limits of its solubility.

The advantages attending its use are these: 1. It does not need special precaution when being added to watery fluids, and in no case does it give rise to a deposition of large globules of chloroform. 2. When added in excess of saturation, the undissolved chloroform is deposited in *minute globules*, which, after lying together for days, show no disposition to combine, but may by a few shakes be dispersed evenly through the liquid, forming an emulsion sufficiently permanent to enable a dose to be measured without difficulty.(—*London Pharm. Journal, June* 1864.) (*Detroit Review of Medicine and Pharmacy*). *Journal of Materia Medica.*

Poisoned Bread.

M. Nicklès, the professor of chemistry of the Faculty of Sciences at Nancy, points out a novel source of mischief of this kind where large demolitions of buildings are in process. He says that certain bakers, with an eye to economy in the purchase of fuel, have heated their ovens with the old woodwork of houses—the doors, the wainscoting, the painted Venetian blinds, and even the telegraphic posts and the worn out sleepers of the railway; and the bread made under these circumstances is poisoned. The wood painted with "zinc white," "white lead," or "verdigris," and the sleepers injected with the "salts of copper," give off, when burned, the metallic oxides of these metals, which become incorporated in great part with the bread during the baking; and M. Nicklès has stated that he has found them always in the crust; some at the under surface of the bread; others, especially the zinc, in the upper crust. The facts are noted by *la France Médicale.* The conclusion is obvious, that no painted wood of any description should be allowed to be used for the preparation of articles of diet, especially in the baking of bread. We are quite sure that the publication of these facts will suffice to prevent the continuance of a practice, if it exists amongst us, from which the most serious results cannot but follow.—*Lancet.*

Digitized by Google

Narcotine as a Substitute for Quinine.

"NARCOTINE, when first partially discovered, and probably not being free from some of the really narcotic principles of opium, was given this name from the supposition that the peculiar narcotic powers of the drug depended upon its presence, but this was soon found to be a mistake. It is noticeable in the late medical journals that Dr. O'Shaugnessy, of India, recommends the narcotine as an antiperiodic in the place of, or as a substitute for, quinine."—*"Salts of Opium" by Dr. J. M. Bigelow.—Detroit Review of Medicine and Pharmacy.*

On a new Syrup of Ipecacuanha: By Mr. J. F. BROWN.

THE familiar ipecacuanha wine is one of the most unsatisfactory of the Galenical preparations in common use. Scarcely a week elapses after it has been made and filtered, before a turbid and unsightly deposit begins to form, and increases in amount, until a layer of mud-like matter ornaments the bottom of the bottle, and the unpleasant alternative is offered to the dispenser either of using a preparation which will destroy whatever pretensions to elegance his mixture possessed, or of filtering out the offending precipitate and thereby impairing its efficiency as a medicine.

The following formula was suggested to me by the perusal of an able paper "on ipecacuanha wine," read by Mr. George Johnson at the Phamaceutical Conference, held at Birmingham, September, 1865, the pith of which was this: 1. That the active principle of the root—the alkaloid emetina—was naturally combined with an organic acid, the ipecacuanhic. 2. That the deposit in vin ipecac chiefly resulted from the oxidation of this compound, which is thereby rendered insoluble.

Emetina is known to be freely soluble in dilute acids, forming with them salts, some of which are crystallizable.

Remembering, too, the property of sugar in preventing oxidation, it occurred to me that by exhausting the root with dilute acid and forming a syrup from the result, a stable compound would be obtained.

I accordingly made a pint a follows:—

Ipecacuanha, in coarse powder, 1½ oz. avoir.
Dilute acetic acid, 10 fl. oz.
Spirit of wine, ½ fl. oz.
Refined sugar, 1 lb.

Macerate the ipecacuanha in the acid for three days, then pack in a small percolator, adding acid till 10 fl. oz. are obtained; to this add the spirit, and dissolve the sugar in the liquor with a gentle heat. The syrup should be made to measure 20 fl. oz. (Imp. pint.)

The sample thus made has been kept from that date (November 6th, 1865) until now, standing upon the syrup shelf in the shop, the bottle being closed merely by a turned wood box inverted over its mouth to exclude dust and flies.

Digitized by Google

About three months after it was made, a faint cloudiness began to appear scattered here and there, but it did not increase in amount, and the mass of the syrup is now as bright and clear as the first day it was made, and is not haunted by even the ghost of a precipitate.

The therapeutic value can scarcely be estimated until it has been more generally tried; it possesses in a marked degree the characteristic odor and flavor of the root, and when substituted for the wine or tincture in our own prescribing, I have not observed any difference in its activity.—*Pharmaceutical Journal and Transactions.*

Dilute Hydrocyanic Acid: By C. Louis Diéhl, Jr., Louisville, Ky.

It is well known that when this acid is not carefully excluded from light, it is rapidly decomposed and deposits a black substance (paracyanogen). Wittstein, in his formula for this acid, recommends the use of alcohol as a preservative, and I wish to state that I have prepared an acid according to this formula, which has kept without any apparent change for four months, although freely exposed to light during that entire period. His formula is as follows:

Dissolve 4 oz. ferrocyanide of potassium in 16 oz. of distilled water, to which add a cold mixture of 3 oz. sulphuric acid and 12 oz. alcohol, sp. gr. ·840. Allow the mixture to stand for twenty-four hours, shaking it occasionally. Separate the crystalline deposit by means of a strainer and introduce the clear liquid into a retort, the bottom of which is covered to the depth of one inch with clear quartz sand. Distill off 20 fl. oz., and reduce the distillate to the proper strength by appropriate tests. The object of using sand in the retort is to prevent the thumping, which is always a source of great trouble during the latter part of the distillation.—*Detroit Review of Medicine and Pharmacy.*

New Test for Uric Acid.

Dr. E. Dietrich states that an intense rose color is produced when a bromated alkaline solution of hypochlorite of soda is added to the urine. After some time and on addition of more solution the color disappears. (Teitsch An. Ch. iv. 176.)—*Idem.*

Cultivation of Cinchona in India.

In the Pharmaceutical Journal and Transactions (London) is a report by J. E. Howard, Esq., F. L. S., of his analysis of the fifth remittance

Digitized by Google

of bark from India. The result is highly encouraging, and appears to prove that in certain varieties, particularly the *C. officinalis* var. *B. Condaminea*, the quality actually surpasses that of the great majority of specimens of the Peruvian and Bolivian barks.

Action of Chloroform upon the System.

MANY of those who have carefully studied the effects of chloroform, when administered in vapor to animals, are of opinion that the first effect of the anæsthetic is excitant, and that this is followed by a sedative effect. This, however, is not the conclusion of M. P. Bert, who has presented a memoir to the French Academy on the action of chloroform as an anæsthetic. From his experiments on dogs and other mammals, M. Bert concludes that the excitant action of chloroform is a false one, and that it does not depend on any systemic effect of the vapor. He asserts that the excitant action is due to the effect of the vapor on the mucous coverings of the eyes, nose, mouth and glottis; the chloroform irritates these surfaces and produces the movements generally observed, and usually attributed to the effect of the absorbed vapor. In proof of this, M. Bert cites the following experiment: "I opened the trachea of a dog, and inserted into it a small glass tube connected with an inhaling apparatus. Into the latter I put some pieces of wool steeped in chloroform. Anæsthesia soon took place, but the animal slept tranquilly, and there was no period of excitation."—*Lancet.*

Action of Digitalis.

OF late a good deal has been said and written on the mode of action of digitalis. Now M, Legroux offers his opinion on the subject. He concludes: 1. That in all doses digitalis (whose active principle is digitaline) exerts a special influence upon the circulation. 2. If in the poisonous dose digitalis acts directly on the heart, it seems that in the therapeutic dose it first produces contraction of the capillaries, and only secondarily affects the heart in re-establishing the equilibrium of the circulation. 3. According to this theory, digitalis is a sedative to the circulation, in the sense that it calms the disturbances of the latter, doing so not by an excitant or tonic action. 4. The influence of digitalis on temperature, secretion, nutrition, uterine contractions, etc., can only be explained by its excitant action on the ultimate branches of the sympathetic system. 5. This theory explains the favorable results obtained by the use of digitalis in fevers, cerebral affections, hæmorrhages, dysmenorrhœa, congestions, etc.—*Lancet.*

Digitized by Google

Belladonna in Scarlatina.

BOUCHUT, the eminent writer on diseases of children, noticing the uses of belladonna as a prophylactic of scarlatina, writes: "The greatest objection—but it is not one in our opinion—the greatest objection which can be made to this therapeutic means is, that it does not fulfill the purpose proposed, that, in a word, it is useless."

This strikes the Journal as eminently *a la Française.— Chicago Medical Journal.*

The Preparation of Pepsin.

THE following method of preparing pepsin was published by Dr. Beale in his "Archives of Medicine," in 1857-58, and has been made by his recipe ever since, by Messrs. Bullock & Reynolds. "The mucous membrane of a perfectly fresh pig's stomach is carefully dissected from the muscular coat and placed on a flat board. It is then cleaned with a sponge and a little water, and much of the mucus, remains of food, etc., carefully removed. With the back of a knife, or with an ivory paper knife, the surface is scraped very hard, in order to press the glands and squeeze out their contents. The viscid mucus thus obtained contains the pure gastric juice, with much epithelium from the glands and surface of the mucous membrane. It is spread out upon a piece of glass, so as to form a very thin layer, which is dried at a temperature of 100° over hot water, or *in vacuo*, over sulphuric acid. When dry it is scraped from the glass, powdered and kept in a stoppered bottle. A good digestive fluid may be made as follows: Of the powder 5 grains; strong hydrochloric acid 18 drops; water 6 ounces. The fluid may be filtered easily, and forms a perfectly clear solution, very convenient for experiment. It may be taken with the salt at a meal. The powder is devoid of smell, and has only a slightly salt taste. This powder undergoes no change if kept perfectly dry. It contains the active principle of the gastric juice almost unaltered. Eight-tenths of a grain of this pepsin, with ten drops of dilute hydrochloric acid, and an ounce of distilled water, dissolve one hundred grains of hard boiled white of egg in from twelve to twenty-four hours.—*Medical Times and Gazette.*

Pepsin.

THE physician before using pepsin in his practice, should assure himself of its purity by testing, as there are many spurious articles found in commerce. It should be completely soluble in water.

The indications for its use are: 1st, deficient secretion of the gastric

Digitized by Google

juice: 2d, imperfect peristaltic movement of the stomach and intestines: 3d, too short a stay of the food in the stomach. One or two grains of pepsin are sufficient for a dose. Dr. Hollman has found it very efficient in anæmia, chlorosis, atrophy and debility from loss of blood or from severe sickness; it may be given alone, or combined with opium or tonics or other remedies; if given alone it is mixed with a little sugar or milk.—*Druggists' Circular.*

Liebig's Soup for Children; (Milk Substitute.)

HALF an ounce of wheat, and the same quantity of barley malt flour are intimately mixed with seven and a half grains of bicarbonate of potassa, then with one ounce of water and five of cow's milk, and heated with stirring over a slow fire, until the mixture begins to thicken, when the vessel is taken from the fire, the stirring continued for five minutes, then heat applied again, removed as soon as it begins again to thicken, then brought to a boil, strained through a fine sieve and the soup is ready.—*Druggists' Circular.*

Effects of Alcohol.

EXPERIMENTS made by Drs. Ringer and Richards on men and animals, go to show that the temperature of the body falls nearly as fast after the use of alcohol in doses sufficient to produce intoxication, as after death itself. The facility with which drunkards freeze to death, is explained by this fact. Dr. Jolly declares that an increasing tendency towards mental disease has been generated by the increasing consumption of spirits. Official reports show that the abuse of alcohol accounts for one-fifth of the insanity in France. (—*Sci. American.*) *Dental Cosmos.*

A Substitute for the Stomach Pump: By R. W. PARKE, M. D., Mobile, Alabama.

* * * "THE apparatus I have reference to consists of a common Davidson's India-rubber syringe and large sized gum-elastic catheter attached to it. By introducing the catheter (or what is still better, a stomach tube) into the stomach, and attaching it to one end of a David-

Digitized by Google

son's syringe, the stomach can be filled in a few seconds with water, and as quickly erupted. I had occasion to use this instrument in this way in 1859. I was called to see a child three weeks old, to whom had been given by mistake, a teaspoonful of laudanum. I saw the child about ten minuters after swallowing the poison. Having no stomach pump, and knowing there was none in the town in which I then resided, I thought of this expedient. I attached a large catheter to the *anterior* end or tube of the syringe and introduced it into the child's stomach. Injected about a gill of warm water into the stomach, reversed the syringe and pumped it out again. I continued this until the water brought from the stomach had no longer the smell of opium. The child recovered without a bad symptom."* * * *(—*Philadelphia Reporter*) *Cincinnati Lancet and Observer.*

Poisoning by Strychnia; Cannabis Indica.

A case occurred in the practice of Dr. S. A. McWilliams, of Chicago, in which the patient, thirty-one years of age, took suicidally, five grains of strychnia. Was seen by Dr. McW. three and three-quarter hours afterwards, when he had extensive, frequent and severe spasms, and with each a blowing of froth from the mouth. He lay upon his back, arms extending obliquely from his body; face flushed; perspiration rolling off him; pupils dilated widely; pulse 130 per minute; color of lips natural; stiffness of muscles and inability to move limbs; mind perfectly clear. A drachm of the tincture of cannabis indica was immediately given, and another in five minutes; then two similar doses at intervals of ten minutes; afterwards two such doses at fifteen minutes interval, with rapid amelioration of symptoms; the next drachm was given in an hour and a half. The remedy which was afterwards alternated with camphor, was continued as the urgency of the symptoms demanded, and the patient recovered, with uninterrupted convalescence, after forty-eight hours.—(*Philadelphia Medical and Surgical Reporter*) *Druggists' Circular.*

Glyconine—a new Glycerole ?.

To obtain this compound, M. E. Sichel employs four parts (by weight) of yelk of egg, and five parts of glycerine, which he mixes simply in a mortar. It has the consistence of liquid honey, and is unctuous like the fatty substances, over which it has the advantage of being easily removed by water. It is unalterable, a specimen having been left exposed to the air for three years, with impunity. Applied to the skin, it forms on the surface a varnish, which protects it from the contact of the air. These properties render in serviceable for broken surfaces of all kinds, particularly for burns, erysipelas and cutaneous affections, in which it soothes the itching, and also for sore nipples; its harmlessness prevents, in the latter case, any interruption of suckling.—(*Journal de Pharmacie &c.*) *Druggists' Circular.*

Digitized by Google

Cod-Liver Extract and Oil.

THE *Druggists' Circular* for June, contains a very interesting article from the *Dublin Medical Press*, in reference to Guffroy's cod liver extract. It says: "The inventor of this preparation, which is coming into considerable use in London and elsewhere, proceeds on the hypothesis that the active medical principles of the cod liver oil are to be found in the greatest abundance in the watery constituents or serum of the liver, which he converted by his process of sugar coating into an attractive preparation. He claims for his cod liver *dragées* that they contain all the beneficial ingredients of full doses of cod liver oil, and being of very small bulk and perfectly tasteless, they completely obviate the objections which bar the use of that agent in the cases where it is most wanted. * * * We will not be expected to give an authoritative opinion as to its merits. Theoretically it is simply a question of what the benefit derived may be due to. If it be simply the oil itself, it appears rather inconsistent to prescribe cod liver instead of many less nauseating oils. If it be the iodine, ichthyoglycine, propylamine, or other conelative ingredients, the inventor has, we think, proved his case."

We have been furnished by Messrs. Tucker and Lyons, druggists, New Orleans, with the following recipe for a cod liver oil emulsion, which appears to fulfill the requirements of concealing the taste and odor, which containing in a given quantity, one half its bulk of oil. "Take of sweet almonds, 1 oz; white sugar, 4 oz; phosphate of lime, 160 grs; water, 4 oz; cod liver oil, 8 oz; oil of bitter almonds, 16 drops; and the white of two eggs.—

Blanch the almonds and beat up with the sugar, well powdered, add 4 oz. water and strain; then add the phosphate of lime and the white of two eggs well beaten up; to this add gradually the cod liver oil and last. the oil of bitter almonds"

In the specimens we have seen, the odor and taste of the oil are completely masked; we would suggest as a further improvement, the use of *Fougeras* iodised cod liver oil in preparing the emulsion; this oil contains an additional amount of iodine, phosphorus etc; and its employment would therefore tend to decrease the quantity required as a dose. L. H. C.

Nitrous Oxide as an Anæsthetic.

GREAT attention has lately been attracted by a new anæsthectic agent, which is however, by no means a new substance, so far as our chemical and physiological knowledge is concerned. I allude to the protoxide of nitrogen, which, according to some authorities, is less dangerous and better adapted to produce insensibility than any other preparation hitherto employed. The contrary opinion has been expressed by several distinguished physiologists. In a letter addressed to M. Chevreul, Professor Hermann states, as the result of his personal experiments, that the inhalation of the protoxide of nitrogen produces a state of dyspnœa, which although seen by the assistants, remains unperceived by the patient himself, on account of the anæsthesia which accompanies it.

On the whole, the sensation is not unpleasant, but the inhalation of

unmixed protoxide of nitrogen is excessively dangerous, and rapidly produces asphyxia. When mixed with oxygen the danger is avoided, but the anæsthetic effects are considerably diminished. Such are the views of the Professor, who certainly deserves that degree of credit which can never be refused to those who have tried similar experiments upon themselves.

Another physiologist, Dr. Krishaber, of Paris, entirely coincides in opinion with the Professor. He states that the protoxide of nitrogen, when pure, invariably produces death within a very short period of time, and that it cannot be safely employed in operations which last more than four minutes. Its mode of action is capricious, and certain patients appear to sink unexpectedly under a species of intoxication without exhibiting those symptoms of asphyxia which, in most cases, precede death. In short, this new anæsthetic is a most dangerous one, in Dr. K.'s opinion, on account of its irregularity, and it cannot be rationally expected to supersede chloroform.—(*London Medical Times and Gazette.*) *Boston Medical and Surgical Journal.*

A Heated Disinfecting Chamber:

"SIR,—A year ago, while temporarily discharging the duties of officer of health in this town, during the illness of Mr. Moore, I became strongly impressed with the inadequacy of the usual manner of disinfecting houses where contagious diseases had prevailed, in consequence of the difficulty of applying any really effectual disinfective process to the bed, etc., on which the patient had lain; which, after the house had been thoroughly cleansed and deodorized, continued to reek forth its emanations into the air. Mature consideration convinced me that there was no mode of obviating the difficulty so little troublesome, so speedy, and so effectual as exposing the articles in question to a high degree of heat; and, acting on this conviction, I recommended to the local board of health the erection of a chamber sufficiently lofty and capacious for the object in view, and capable (if required) of being heated to a temperature of 300° Fah. The board having, to their honor, always been distinguished for their zeal in sanitary matters, and solicitous for the adoption of any useful improvement, brought the matter before the Town Council, who assented to the proposal, and requested me to make inquiries and take the necessary steps for carrying the proposal into effect. I at once proceeded to do so, but could not learn that any building of a similar character existed in the kingdom, although I was informed that ovens were in use in several places for the destruction of pediculi and their ova, but that they were incapable of being heated to the degree of temperature which I had proposed. Being thus thrown on my own resources, I obtained the able assistance of the borough surveyor, and we finally determined upon a plan of heating which has been perfectly successful. The chamber was erected at a moderate cost, and was opened for public use in November last, and I beg to enclose now the notification of it which the Board of Health has circulated in the town.

I am, etc., J. W. CRANE, M. D., etc."

Leicester, February 16th. —*Medical Times and Gazette.*

Google

[We wonder how long it would have taken the city council of New Orleans to have come to a conclusion like that of the Leicester authorities; we fear that the term of service for more than one medical officer would have expired before the proposition was fully referred to half a dozen committees and finally—rejected; but their portraits have been sent to the Paris Exposition, and we will only say, *we do things differently in America.*—L. H. C.]

Medical Properties and Uses of the Salts of Lithia.

One of the most remarkable properties of Lithia is the action which it exercises upon uric acid. I have observed that on boiling in water an excess of carbonate of lithia, and adding thereto uric acid, the portion of carbonate of lithia which had not dissolved in water, was then instantly dissolved, which shows that the urate of lithia is more soluble than the carbonate, the salt which forms being bi-urate of lithia which crystalizes in long needles, and which corresponds to the urate of soda found in the blood and different tissues of gouty subjects. In administering the salts of lithia the following considerations are necessary; they should be given much diluted with water, either ordinary, or that charged with carbonic acid. This solution constitutes the lithia water, corresponds, except in strength, with the ordinary liq. potassæ or soda. When a considerable quantity of alkali is necessary, I am in the habit of associating the carbonate of lithia with some salt of potassa, the carbonate or citrate; it is advantageous to use in this case as a vehicle, ærated water. The carbonate of lithia can also be administered united with the phosphate of ammonia, but it must not be forgotten that the phosphate of lithia can only be dissolved in a large quantity of water. The greatest obstacle to the medical use of lithia is its high price, but this cannot be a serious one, for only small doses are used; it is possible that if it becomes general, it will be prepared in large quantities, and that the price will diminish.

Lately, old salts of lithia have acquired a new interest for the chemist as well as the physician. This interest arises from the extended uses of them in medicine, and from the recent discoveries of Birchoff and Bunsen. It was pretty difficult, with the old methods of analysis, to recognize the presence of small quantities of lithia, when Bunsen showed that by the aid of the spectral analysis, the faintest traces of it could be easily discovered. This metal gives in the spectrum a well-marked and characteristic red line, a band of a pale yellow, and a certain blue line, when heated to a high temperature.

It has been shown that lithia is found diffused in great quantity through the animal and vegetable kingdoms; it is also found in sea-water, in many mineral springs, in the ashes of sea-weeds, in many plants, such as the vine, tobacco, the cereals, the blood and muscles of man, and various animals. Lithia then ought not to be considered as a medicine foreign to the organization, but rather as a natural and essential principle, necessary for the maintenance of health. The quantity of lithia diffused in Nature is very feeble, yet it has been found that in

Digitized by Google

some of the springs of Baden-Baden, in those Jetquelle and Murquelle, the proportion is such that the waters are powerful therapeutic agents, and they are used for the extraction of the salts of lithia. The experiments which I have made on the properties and uses of this metal are as follows: The carbonate of lithia appears to be a powerful diuretic, and in some patients increases the urinary secretion in an inconvenient manner. I have noticed several cases, in which a single bottle of lithia water, taken at the moment of going to bed, obliged the patient to remain up the whole night urinating; while the same dose of the liq. soda had no such effect. The carbonate of lithia is a very energetic alkalizing agent on the urine. I have seen the urine become strongly alkaline after five grains of it had been taken. In several others, I have seen the deposit of uric acid prevented for an indefinite time, by the use of the same salt. Numerous experiments have shown me, that the proper administration of lithia would prevent the return of attacks of gout, and I have learned of several patients who would use wine with impunity, so long as they took this remedy; I have been assured that in some gouty patients the chalky concretion had disappeared under its continued use. A consideration of the pathology of gout, where a crystalline deposit always forms in the tissues of the affected parts, and the property of lithia, of rendering the blood alkaline, and uric acid soluble, would not usually lead one to try the various salts of this base, in the treatment of gout and other affections, whose causation is connected with the presence of an excess of uric acid in the system. The citrate has been lately employed; it is used when there is no indication of a free alkali; it is crystalline, very soluble in water, and not disagreeable to the taste; its action on the stomach is not that of an alkali; it decomposes in the blood after being absorbed, and appears in the urine as carbonate. Although a great number of patients have taken, for a long period, this agent, I have not seen any bad effects from it. I would state particularly, that in my opinion, lithia cannot replace colchicum in the treatment of gouty inflammation; it would be a powerful adjuvant, but it is especially in chronic gout that it is useful, to ward off the attacks, and to resolve the remains of the disease.—*Gazette des Hopitaux, December*, 1866.

ANATOMY AND PHYSIOLOGY.

Malposition of the Kidneys: By Dr. James H. Butler.

On the 14th of November last, a *body* was brought into the dissecting-room of the University of Maryland, presenting an extraordinary malposition of both kidneys.

The subject was a negro man, apparently about thirty years of age, nearly six feet in height, well formed and developed, and but little changed by sickness. The disease from which death had ensued was evidently pneumonia, both lungs being found in a hepatized condition.

When the students who were engaged on the *body* had advanced to the examination of the abdominal viscera, an abnormal position of the urinary organs was observed; for the kidneys, instead of occupying the lumbar region, were found situated in the pelvic cavity.

Both kidneys were united, or fused into one, with a central line or raphé making a longitudinal fissure over the surface of the organs, better marked on the posterior than on the anterior part. In length, they extended from the lower border of the fourth lumbar vertebra downward over the promontory of the sacrum to the middle of that bone—in all, five inches; and in breadth measuring three and three-fourths inches. The ureters sprang from the pelvis, which occupied the central anterior part of the organs, and then passed off on each side, and emptied into the bladder at the usual site.

The tumor, thus formed by the kidneys, could be readily felt by examining with the finger *per rectum*.

The arteries supplying the organs were four in number—above, a single large trunk came from the aorta, just at its bifurcation, immediately in front of the *sacra media* artery, passed downward, and before entering the substance of the organs, broke up into five small branches; on the left side, two arteries came from the left internal iliac, near its commencement; on the right side, an artery passed into the organs from the right internal iliac.

Believing that such a condition as I have described has never been presented in any pathological work, I deemed it proper to lay it before the profession, as a remarkable circumstance, and one which doubtless gave the person no trouble, and was in nowise connected with his death.—*New York Medical Journal.—Detroit Review of Medicine.*

Influence of Vaso-motor Nerves over Secretion.

M. Brébant, of Reims, has put forward a theory of the relative action of the sympathetic and ordinary nerves, which is different from that of M. Bernard, and which seems plausible enough at first sight. Taking the submaxillary gland as an illustration, he says this organ is provided with two distinct sets of nerves; the chorda tympani, and the filaments of the sympathetic. The sphincters of the vessels of inosculation obey the chorda tympani, and those of the capillaries obey the sympathetic. If no excito-motor action excites the chorda tympani, the vessels of inosculation remain open, and enter the minute capillaries; consequently there is no secretion: the gland remain inactive. If, on the contrary, says M. Brébant, the chorda tympani is called into action, it produces contraction of the sphincters of the inosculating vessels, and these latter being closed, the blood flows on to the ultimate capillaries, and thus secretion takes place.—*Lancet.*

The Rods and Cones of the Retina.

Herr Max Schultze, who has started a publication in Germany analogous to our *Microscopical Journal*, has given in one of its latest numbers

a very valuable paper on the structure of the retina. The most interesting point in the article is that relating to the distribution of the cones and rods. While in most birds the cones are far more numerous than the rods, in certain nocturnal birds, such as the owl, the opposite is the case. Not only is this the case in the latter genus, but the rods are of disproportionate length, and give the retina somewhat the appearance it has in the bat. This curious relation of the rods and cones would seem to point to a difference of function of these parts. It would be interesting, therefore, to have the subject pursued even beyond the inquiries of Herr Schultze.—*Lancet.*

The Liver of Verterbrates.

A view of liver-structure in some measures conformatory of Dr. Lionel Beale's doctrine of follicular hepatic ducts has been laid before the Vienna Academy of Sciences by Herr Hering. This observer states that the liver is like the other secreting glands. It is of the tubular type, with canals, anastomosing in every direction, and having a tendency to form a series of networks. Like other secretions, the bile travels along glandular canals surrounded by glandular cells. It is easy (he says) to observe this arrangement in the livers of vertebrates. Five or more cells are disposed in simple layers around the circular and minute aperture of an hepatic utricle seen in transverse section. This arrangement loses itself insensibly in that variety of structure in which there are no utricles properly so called. Occasionally may be seen four, three, or even only two cells, uniting to form a biliary canal. The Russian anatomist denies the existence of hepatic trabeculæ of biliferous capillaries, and believes that the biliary cells are persistent. He looks upon serpents' livers as the only organs of minute inquiries upon the subject.—*Lancet*

On Origin of Muscular Force, (From a series of experiments by Prof. Fick and Wislicenus on themselves, and of Prof. Parkes on two soldiers, lasting eighteen days, the following conclusions are drawn.)

Firstly. That the non-nitrogenous diet of fat, starch, and sugar, exercise produces a slight but unimportant increase in the amount of nitrogen excreted both by the kidneys and the intestines.

Secondly. That during the period of actual work the amount of urea is diminished, proving that changes takes place which cause either a retention of the nitrogen or an elimination by another channel. It is evident, then, that the quantity of the urea excreted cannot be taken as an index of the amount of waste which the tissues have suffered.

Thirdly. That the amount of force expended during exertion is not merely the result of the oxidation of the muscular, nervous, and other nitrogenous tissues of the body, which can, in fact only represent about

Digitized by Google

one-fifth of the entire quantity, but that a most important share in its production is taken by the non-nitrogenous (fatty and starchy) elements of the food, previous to their transformation into tissue.

Fourthly.—That a well-fed body possesses a sufficient store of nitrogen to allow of muscular exertion being continued for some time without requiring any immediate supply, but that food will shortly be required to replace the tissues which have been destroyed, and that this food must contain some of the nitrogenous principles, either animal or vegetable—viz., albumen, fibrin, casein, gluten, &c. This last fact was very distinctly proved during the third and fifth periods of Dr. Parkes's experiment, in which not only was the exhaustion consequent upon the starvation of the nitrogenous tissues severely felt, but a very notable quantity of nitrogen was taken and retained in the body to replace the former loss.

These results, besides their purely scientific value, may teach certain useful practical lessons. Thus, in training for those exercises which require a great and sudden expenditure of force, it is a mistake to supply a too exclusively nitrogenous or meat diet, since four-fifths of the total amount of force has to be obtained from the oxidation of the non-nitrogenous elements of the food—fat, starch, sugar; whilst, on the other hand, the want of a sufficient supply of the nitrogenous elements —albumen, fibrin, casein, etc.—leads to an inadequate renewal of the wasted muscular and nervous tissues, and the consequent formation of an imperfectly organised structure, which will be less able to bear any of the severer trials to which it may be subjected, and will ultimately lead to early degeneration and death.—*Medical Times and Gazette.*

Cutaneous Absorption.

M. Hoffmann related at a recent meeting of the Academy of Sciences some experiments which he had performed on himself in illustration of the question of cutaneous absorption :—

"1. During 44 days I took 16 baths, each consisting of 300 litres of water and 250 grammes of digitalis leaves. After the third bath only, I began to feel the peculiar uneasiness proper to the action of the medicine, my pulse at the same time becoming slower by four or five beats, this condition persisting for several hours. By the eighth bath the *malaise* had increased, and my pulse had descended from its ordinary number of 68 to 61, while after the sixteenth bath it had descended to 48. It is evident, then, that the active principles of digitalis had been absorbed, but only in a slow and progressive manner. 2. Every third day during six weeks I took a bath to which 50 grammes of iodide of potassium had been added. After the fifth bath I recognised the presence of the iodide in the urine, this condition persisting for twelve days after all treatment had ceased, excretion being, in this case, as slow as absorption. 3. A bath was taken every third day during a month to which 5 kilogrammes of marine salt had been added, and the chlorides of the urine rose progressively from 2.15 gr. to 3.47 gr. per litre. The general conclusions arrived at from these and other experiments are—(1)

Digitized by Google

Chemical and other agents, dissolved in water, penetrate very slowly, but still manifestly, into the economy by the channel of the external integuments; and it is only when the blood and other liquids have become saturated with them that they are excreted by the economy. (2) All medical agents are not absorbed in the same degree. (3) The contradictory results hitherto obtained are solely due to the fact that the experiments upon which they have been founded have not been pursued for a sufficiently prolonged period."—*Medical Times and Gazette.*

Blanching of the Hair.

PHYSIOLOGISTS have been at a loss to account for the sudden whitening of the hair which is known to be produced by the intense and sudden terror or profound grief. Mr. Erasmus Wilson, in a paper recently read at the Royal Society, threw considerable light upon the question. The paper was founded on a case apparently unique, in which every hair of the head was colored alternately brown and white from end to end. The white segments were about half the length of the brown, the two together measuring about one-third of a line. Mr. Wilson suggested the possibility of the brown portion representing the day growth of the hair, and the white portion the night growth, and this opinion was corroborated by the remarks of Dr. Sharpey and others of the Fellows who took part in the dicussion which followed the reading. Under the microscope the colors of the hair were reversed—the brown became light and transparent, the white opaque and dark; and it was further obvious that the opacity of the white portion was due to a vast accumulation of air-globules packed closely together in the fibrous structure of the hair, as well as in the medulla. There is no absence of pigment, but the accumulation of air-globules veiled and obscured the normal color and structure. Mr. Wilson observed that, as the alteration in structure, which gave rise to the altered color, evidently rose in a very short period, probably less than a day, the occurrence of a similar change throughout the entire length of the shaft would explain those remarkable instances, of which so many are on record, of sudden blanching of the hair; and he ventured to suggest that during the prevalence of a violent nervous shock the normal fluids of the hair might be drawn inwards towards the body, in unison with the generally contracted and collapsed state of the surface, and that the vacuities left by this process of exhaustion might be suddenly filled with atmospheric air. Dr. Sharpey mentioned a recent example of sudden blanching of the hair, which had been observed by Dr. Landois of Greifswalde, as reported in Virchow's Archiv, and which was ascertained to be due to accumulation of air-globules in the fibrous substance of the hair.—*Lancet.*—*Medical Record.*

MISCELLANEOUS.

The Quinine Districts of the Andes.

THE official report on the efforts of the Italian Government to introduce the quinine plant in the mountainous regions of India, contains a very interesting account of the culture, climate, and habitat of the cinchona

plant of South America. Mr. C. R. Markham, of the Indian office, in a memorandum which he submitted to the Indian Government, stated that he considered it to be very important that seeds of the species which grew in New Granada, being hardy, and yielding a large per centage of the quinine, should be obtained for propagation in India, and the Secretary of State made arrangements with Mr. Cross for this purpose. That gentleman accordingly made a tour of the Andes, and passad through districts which had not been previously explored, for it appears that even Humboldt, who visited Popayan, did not penetrate many of the forests which were visited in this search for seed. The official notice for the work performed states that Mr. Cross had to face dangers and hardships of no ordinary kind, which proved fatal to the object of his first mission, as the seeds he had collected were destroyed; but a renewed visit, made at the instance of the Indian office, was more successful. At the time of receiving his instructions, Mr. Cross was residing near the Red Bark Forests, on a high table land on the western slopes of Chimboraza, at an elevation of 10,000 feet above the level of the sea, from this district he commenced his ascent of the northern shoulder of the Chimboraza, and reached the highest part of the pass, which has an elevation of nearly 35,000 feet. After passing through districts where barley and potatoes were cultivated, he came upon an edible species of *Oxalis*, and then reached immense tracts of land covered by a *Stipa*, which with gentians, *Chuquiragua insignis*, and other plants of the order *Compositæ*, ran up to the very verge of perpetual snow. Passing along a road hedged on both sides by monstrous specimens of *Agave Americana*, he came to the snow-covered cone of the volcano Cotopaxi, from which a perpetual rumbling noise is heard, and which sends up flame to a height of 1,000 feet above the summit to the crater. Our traveller next passed the borders of the Luguna de San Pablo, which was surrounded by tumuli, some of which were of the extraordinary height of 400 feet, and thence to the plains of tuquerres, which at a hieght of 10,500 feet produces a *Barnadesia* with white flowers, and where dwarf species of gentian was in full bloom, covering the ground as thickly as daisies do in a pasture field in England. At Pasta he came to a district which has a mild temperature, being surrounded by forest-covered mountains, where a species of *Cinchona* is cultivated, chiefly for export to the United States. Pasta is also a market for vegetable dyes, which are brought there by the Indians. There was much cinchona bark stored up at this place, and also in sheds in the forests; but as its yield of quinine was small, it did not sell readily. The bark had a yellow or orange color, and in the fracture was coarse and fibrous. Mr. Cross describes the tree producing it as the *Cinchonia lancifolia* of Karston, being of great size, with large lanceolate coriaceous leaves and bark, covered with silvery epidermis. After passing through a series of adventures of no ordinary kind, Mr. Cross arrived at the city of Popayan, which lies between two volcanoes, at nearly 6,000 feet above the sea. He next reached Sylvia, the headquarters of those who buy the bark of Pitayo, Hambola, Tortory, and Purrace. Passing on to Pitayo, some choice plants were discovered, and here Mr. Cross selected seed from trees about fifteen feet high. He remarks that the color and depth of soil varied from light brown to nearly black, and was from three inches to three feet in depth. In all situa-

s the vigor of the cinchona plant apperaed the same, but it was

Digitized by Google

restricted to the dry slopes, and was never found on wet ground. After drying the capsules, he occupied himself in taking the temperature of the region, and he found at the lowest limit of the cinchona it rose during the hottest days to 59° or 60°, but at night fell to 46° or 48°, and at certain periods below freezing point; at the upper limit, the temperature ranged during the day from 40° to 48°, and at night fell to 35° or 36°. Hence it would appear that in dry situations it favors the plant to have an occasional fall in the temperature of three or four degrees below freezing point, and a daily range from eight to twelve dgrees.

The general vegetation of this region consisted of pipers, solanums, brugmanzias, fruhsias, smilax, etc. The winds, which in summer are often violent, do not appear to affect the cinchona, but the forests are very rarely enveloped in mist. It appears to be a delusion, therefore, on the part of some persons who assert that torrents of rain and mist are necessary for its growth. Mr. Cross states that "he had been in localities in the Andes which had altitudes similar to that of the cold cinchona region, where only a species of *Salanum* would grow, and which looked as if on the point of extinction, from the abundance of mosses which twined around the smallest shoots to the points. No cinchona could live in such a climate, a certain amount of dry weather being necessary for ripening the capsules." It appears that all the bark taken from Pitayo is sent to France, and that the bark sold in England under that name is not true Pitayo bark, bnt comes from the mountains which border on the valley of Magdalena, from Almaquer and Pasta. Mr. Cross states that this spurious Pitayo bark of the English market is from the *C. lancifolia* of Karsten, and is very inferior in quality to that of "Pitayo, the latter being not much thicker than window-glass, being taken from small plants; the large trees having been destroyed long ago. Mr. Cross then continued his journey to the great valley of the Magdalena, the town of Neyva being the principal emporium for the bark of the district; and thence he returned to Paramo, having accomplished a difficult and interesting journey, during which he collected a vast amount of information, which cannot fail to be of great practical importance to cultivators of this valuable plant. Viewed merely as a geographical exploration, this journey over a considerable portion of the Andes cannot fail to attract the attention of scientific men, and Mr. Cross's remarks on the vegetable productions of this vast region must interest botanists and chemists. Mr. Clements R. Markham, in his official memorandum, states that "Mr. Cross deserves great credit for the skillful and energetic way in which he performed this difficult service." It appeaas that a portion of the seed obtained has been supplied to the Mexican Government, who are anxious to cultivate the cinchona plant. —*London Chemist and Druggist.—Nashville Journal of Medicine and Surgery.*

The Disease of Job.

We are apt to smile sometimes at the enthusiasm, energy, and industry antiquarians will throw into their investigations upon what may seem to the outside world matters of little importance; and it would seem that the Medicos are not devoid of this spirit on suitable occasions, for the Société Impériale de Médecine de Lyon has devoted its recent meet-

ings to the discussion of the nature of the affection from which Job was a sufferer. M. Rollet entered into an elaborate historical investigation upon the subject, and, after rejecting the various other maladies which have been suggested, came to the conclusion that scorbutus was really the one in question. Weighed down by moral causes and depressing influences, the patriarch, the subject first of a general neuropathy, exhibited various cachectic symptoms, chief of which were severe stomatitis, accompanide by fœtid breath, difficulty of eating, emaciation, abdominal pains, and diarrhœa. The blackish color of the skin, petechial eruptions, purpura, and sanguineous suffusions are all pathognomic of scorbutus. M. Aubert Roche and other observers have shown that scorbutus accompanied by ulcerations, is of frequent occurrence on the borders of the Red Sea. M. Diday could not admit this view of the case, for it is evident that Job's complaint was regarded as a rare one, and the length of his objurgations shows that the condition of his mouth could not have been very bad. It was, in fact, one of those indefinite forms of tertiary syphilis which we still meet with that Job labored under, and an analogous example of which the speaker related. The extensive sores, pains in the bones, purpura, and other signs of cachexia, are thus to be explained. The vast sores from which Job suffered, M. Girin believed, arose from his scratching himself so desperately, in consequence of the existence of general eczema, which also gave rise to brown and blackish crusts. M. Gailleton regarded the affection as very like the lepra met with in Mexico at the present time, and if it was not lepra it was pemphigus; but, unfortunately, our defective knowledge as to the etiology precludes a decided opinion on the subject. M. Rodet could not admit the imputation of syphilis, for Job was a man of pure life, and had his wife suffered through his instrumentality her invectives would only have been increased. In fact, gonorrhœa was the only venereal affection endemic in Palestine. That the disease was not the lepra of the Hebrews decribed by Moses seems clear; nor is it probable that it was the tuberculous lepra observed at the present time, wich is never spontaneously cured.—*Medical Times and Gazette.*

EDITORIAL AND MISCELLANEOUS.

OBITUARY.

DIED, at Montgomery, Alabama, June 6th, 1867, GUSTAVUS ADOLPHUS NOTT, M. D., Professor of Materia Medica and Therapeutics, in the Department of the University of Louisiana.

In the past few years Louisiana has been losing some of her most prominent members of the Medical Profession, and the blows have fallen in quick succession. In the dispensation, those of us who are left behind must see our individual warning. A few more years (it may be months, days, or even hours) of toil, and to the same bourne we take our way. While lingering here, however, it is a sad privilege, not to be lightly ignored, to lay at the tomb-doors of those who precede us our humble recognition of their worth whilst among us.

Professor Nott was our senior by some years, but our personal recollection of him extends backward to the time of our boyhood in South Carolina. Since the year 1848 we have known him as a man and as a member of the profession chosen by us both. He was an educated gentleman, an accomplished teacher, and a valued member of society. Having devoted so many years of his life to the cultivation, as a teacher, of one of the most important branches of medicine, it is to be regretted that he did not leave us, at least through the medium of our medical periodical literature, the fruits of his toil. He would thus have fitly crowned a useful though not protracted life. To those who knew him in his professional sphere, he has, however, left a shining example for emulation. His was a noble soul. It has been our privilege to meet him during long years digging in the rich soil that we stood on as members of a liberal and enlightened profession, and we always found him a stranger to envy, an enemy to "all arts but honest arts," and a stimulus rather than an attempted blight to the honorable efforts of his fellow men. He, in his true liberality of nature, felt his own littleness, like that of every individual, in the accomplishment of the unlimited work that lies before men of science, and he watered with smiles rather than withered with frowns the exertions of those laboring in the same field with him.

Such men as Dr. Nott are missed from the sphere in which they have moved in this life, and from the social circle behind him it may well be said:

"He,
Not being less, but more than all
The gentleness he seemed to be,

So wore his outward best, and joined
Each office of the social hour
To noble manners, as the flower
And native growth of noble mind."

D. W. B.

DIED, at Houston, Texas, on the 8th of July, 1867, Dr. ROBERT J. BRECKENRIDGE, during the late war Inspector of Hospitals for the Army of Northern Virginia.

The Mortuary Report and Infanticide.

In our February number, we called attention to the unchecked growth of the crime of infanticide, for such it is, whether it be the result of ignorance or deliberate intent. We had hopes that Legislative action would have been taken on the subject, but matters more important occupied the attention of our law-givers, and the business continues to flourish luxuriantly. In a letter lately received from Dr. Dirmeyer, Secretary of the Board of Health, he requests our attention to the figures in his monthly reports, which we have presented to our readers in consolidated form.

Digitized by Google

As he says, it will be perceived that the wholesale murder of innocents

continues unchecked; still-born children are being daily hurried to the grave and the authorities remain quiet. There are no laws to reach the guilty, for there are none to punish the ignorant and unprincipled midwife. The burials of still-born children do not show a true exhibit of the full extent of crime of which these fiends are guilty. The cesspools and the earth receive more than double the number registered and reported; abortions are yet more numerous. In addition it will be seen that a great many little ones have been sent to their long homes by *trismus nascentium*, (or reported thus,); these cases are frequently attended by midwives, who take upon themselves the right to sign death certificates. In the name of God, how long is this state of affairs to continue? Is human life to be considered of secondary importance to dollars and cents? Will the authorities remain for ever perversely blind to such horrible crime against the laws of God and man, stalking like a pestilence in the light of day? This fearful destruction of life *must* be stayed. It is already a criminal offence, (though for what reason heaven knows, it is never punished) for any one but a qualified physician to sign a death-certificate or to write a prescription. The arm of justice should pursue all who presume to attend the sick, without holding authorization or proof of having acquired the proper knowledge. If the present officers of the law are incapable of hunting down the guilty, let full power be given to the coroner, the Board of Health and the health officers, to arrest or have arrested every midwife, deputy coroner, street commissioner, or other unqualified person who shall sign a certificate of death, any sexton who shall receive such, and any person who may be instrumental in bringing about an abortion. Let the punishment be always, *at least* imprisonment; fines are worse than useless; the criminal leaves the court-room determined to retrieve the loss to the pocket, and it is, besides, a deep damning outrage to allow human life to be paid for in money. Indeed, criminal abortion is murder in the first degree, and should be expiated only with the life of the murderer. It is to be hoped that the disgraceful stupor (or stupidity) in this regard, which has hung so long about those in whose hands are placed the reins of government, will be promptly dissipated. The evil must be torn up by the roots at once, or we shall presently be startled by similar disclosures to those recently made in New York, the existence of regular establishments for the perpetration of the worst crimes that ever stained the annals of civilization.

Clifton Hall, Dr. Given's Private Hospital for the Insane.

We are desirous of calling the attention of physicians to the excellent private hospital of Dr. R. A. Given, for the cure of the insane and the treatment of mental diseases. It is not necessary to dwell on the superior advantages of private institutions of the kind over public hospitals. To those who can afford the expense of the former, the larger comforts, the more assiduous care, the better social surroundings, ensure always more mental tranquility and hold out a better chance of restoration than any State institution possibly can.

Clifton Hall is beautifully situated within a few miles of Philadelphia. It is designed to accommodate about twenty patients of each sex. The

Digitized by Google

appearance of the houseis highly attractive, and though possessing all the safeguards and appliances of a public hospital, presents nothing to impress its inmates unfavorably. The non-restraint system is exclusively employed, every species of healthy amusement is provided, and the inmates of both sexes dine at the same table with the superintendent.

Dr. Given is a gentlemen of large experience in the management of the insane, and to those moral and intellectual qualities which eminently fit him for so responsible a charge he adds strong claims upon the patronage of the South. His genial sympathy with our cause, and his freely expressed sentiments during the war, injured him greatly at the North; but although his means were much circumscribed and his prospects impaired from these causes, he behaved both then and since with munificent liberality to those of our unfortunate people who were under his care.

In recommending his institution to those who are interested in behalf of friends or patients, we do so most unqualifiedly, from the high encomiums it has received at the hands of those who have enjoyed the largest opportunities for investigating its method and results.

The American Naturalist.

We have received numbers one, two, three and four, of this very interesting monthly edited and published at the Essex Institute, Salem, Mass. It is gotten up in neat style, is forty-five pages octavo, beautifully illustrated, and cannot fail to please. To every lover of natural history we can highly recommend it. Subscription $3,00 per annum.

Medical Ethics.

We have received several communications from our subscribers on the subject of medical ethics, and regret that want of space prevents us from answering at length for the present. We beg to refer to the code of ethics published by the American Medical Association, and which is authority with the profession in this country.

Private Medical Instruction.

We have always advocated systematic office instruction of Students of Medicine as a very important point in the attainment of a good medical education. We know by personal experience that it is a matter of the utmost importance.

It gives us great pleasure to note the energetic manner in which Drs. John D. Jackson and S. P. Breckenridge of Danville, Kentucky, have undertaken this part of medical education, and we earnestly hope that they will meet with full success. Would that physicians in all the States would undertake the business in a systematic manner.

Digitized by Google

Report of Deaths in the City of New Orleans, from the 1st day of April to the 30th day of June, 1867.

Males.....648. Females.....535 Not stated.....44. Total.....1227.

DISEASES.		DISEASES.		DISEASES.	
Abscess of Rectum	1	Dysentery	22	Laryngitis	1
Albuminuria	3	Dysentery Acute	3	Liver, Disease of	1
Aneurism	1	Dysentery Chronic	10	Lockjaw	14
Aneurism of Aorta	1	Diptheria	1	Marasmus, Adult	2
Anœmia	4	Diabetes	1	Marasmus, Infantile	24
Angina	2	Epilepsy	7	Measles	1
Atrophia	2	Entero Colitis	6	Meningitis	12
Apoplexy	26	Erysipelas	3	Old Age	7
Asthma	3	Entero-Mesenteritis	1	Paralysis	4
Bronchitis	19	Fever Bilious	5	Peritonitis	5
Burns or Scalds	5	Fever Congestive	27	Pericarditis	1
Brain Disease	1	Fever Pernicious	12	Pleurisy	5
Bright's Disease	3	Fever Intermittent	4	Pneumonia	49
Cancer	7	Fever Brain	3	Pneumonia, Typhoid	3
Cancer of Breast	1	Fever Nervous	2	Poison	1
Cancer of Stomach	1	Fever Puerperal	1	Premature Birth	9
Cancer of Tongue	1	Fever Remittent	1	Pyemia	1
Cancer of Womb	5	Fever Scarlet, Malig't	1	Rachitis	1
Cancer of Rectum	1	Fever Gastric	1	Rheumatism	3
Catarrh	2	Fever Typhoid	17	Stricture of Urethra	1
Catarrh of Bladder	1	Fever Typhus	1	Scrofula	4
Catarrh, Senile	1	Fever Yellow	3	Small Pox	16
Cholera	4	Fracture of Leg	1	Softening of Brain	4
Cholera Infantum	27	Fracture of Arm	1	Softening of Stomach	1
Cholera Morbus	2	Gangrene of Lungs	2	Spinal Injury	1
Cirrhosis of Liver	2	Gastro Enteritis	18	Spine, Disease of	1
Colic	2	Glottis, Spasm of	1	Stillborn	102
Colic Bilious	1	Hæmorrhage	1	Syphilis, Secondary	1
Concussion of the Brain	1	Hæmorrhage of Lungs	4	Suffocation	1
Congestion of the Bowels	2	Heart, Disease of	22	Suicide	8
Congestion of the Brain	24	Heart, Enlargement	2	Sun-Stroke	2
Congestion of the Lungs	7	Hepatitis	7	Tabes Mesenterica	7
Consumption	150	Hooping Cough	11	Tetanus	6
Convulsions	15	Hydrocephalus	5	Tuberculosis	2
Convulsions Adult	2	Hydrophobia	2	Teething	28
Convulsions Infantile	45	Hernia	1	Tris. Nascentium	47
Croup	5	Inflammation, Bladder	2	Tumor	1
Debility	2	Inflammation of Bowels	34	Tumor of the Pelvis	1
Debility Adult	18	Inflammation of Brain	9	Ulceration	2
Debility Infantile	13	Inflammation of Lungs	3	Ulceration of Bowels	2
Delirium Tremens	5	Inflammation, Stomach	4	Ulceration of Throat	1
Diarrhœa	24	Inflammation of Womb	1	Unknown	21
Diarrhœa Acute	2	Inanition	1	Varioloid	1
Diarrhœa Chronic	24	Intemperance	1	Womb, Disease of	2
Dropsy	7	Intussusep., Intestines	1	Wounds	2
Dropsy in the Chest	2	Jaundice	1	Wounds, Gunshot	3
Dropsy in the Abdomen	4	Killed Accidently	11	Not stated	18
Dropsy of the Heart		Killed or Murdered	2		
Drowned	26	Labor, Difficult	2		
Total					1227

AGES.		AGES.		AGES.	
Under 1 year	421	25 to 30 years	88	80 to 90 years	10
1 to 2 years	83	30 to 40 years	128	90 to 100 years	3
2 to 5 years	50	40 to 50 years	106	100 and upwards	1
5 to 10 years	29	50 to 60 years	83	Unknown	47
10 to 15 years	20	60 to 70 years	63		
15 to 20 years	81	70 to 80 years	28	Total	1227
20 to 25 years	61				

NATIVITIES.		NATIVITIES.		NATIVITIES.	
Africa	2	Germany	52	Spain	5
Austria	2	Holland	2	Sicily	1
Belgium	1	Ireland	108	Sweden	4
Canada	2	Italy	6	Switzerland	5
China	1	Mexico	1	United States	722
Denmark	3	New Brunswick	1	West Indies	6
East Indies	1	Prussia	8	Not stated	259
England	4	Russia	2		
France	43	Scotland	6	Total	1227

White,....810 Black,....251 Mulattoes,....124 Not stated,....42 Total,....1227

Compiled from Monthly Reports of Board of Health, by L. H. Cohen, M. D.

Google

Mr. I. Baker Brown.

SINCE the publication of our last number, in which Mr. Brown and his Surgical Home were noticed, the Obstetrical Society of London has expelled him from its membership, and he has been forced to resign from the London Medical Society.

Harsh as this treatment may appear, we think it not only amply deserved but urgently called for. That Mr. Brown is an excellent Surgeon, and an ingenious and original operator, only make his dereliction the more flagrant. Such persons are the more dangerous when they abandon the legitimate high ways of the profession for the tortuous paths of Quackery. We are glad that a rebuke so greatly needed has fallen upon one whose notoriety will make it a shining example, to be seen and heeded, we trust, by all men.

WE are in receipt of the prospectus of the Texas Medical Journal, a Monthly, of not less than 80 pages, edited by Drs. Boring & Gantt, to be published in the City of Galveston, at six dollars per annum.

BOOKS.

The Indigestions; or Diseases of the Digestive Organs Functionally Treated: By THOMAS KING CHAMBERS, Consulting Physician and Lecturer on the Practice of Medicine at St. Mary's Hospital, author of "Lectures chiefly Clinical," etc., etc. Philadelphia, Henry C. Lea. 1867, 8vo, pp. 287.

DR. Chambers has achieved a tolerably wide reputation as a clinical teacher of medicine, more especially of that class of diseases directly or remotely associated with derangements of the digestive system. A careful observer and generally correct reasoner, he has not shrunk from the vast and often irksome labor demanded from all who aspire to the position which he has fairly won. A conscientious student, he has thought no detail beneath his notice, and this painstaking fidelity has been rewarded—as it will never fail to be—by that larger insight into the relation of morbid phenomena which is only to be attained by the unwearied interrogation of nature. It is this, which has given his opinions a claim to respect, and fitted him to become our guide in some of the most obscure forms of disease that we are called on to treat. For that large class of gastro-intestinal disorders which is included under the general name of Indigestion embraces a greater variety of manifestation, has a wider symptomatology, than any other we know of, not excepting that

Digitized by Google

broad group which falls within the equally vague category of so-called Hysteria.

Of the present volume it is not difficult to give an account. Not as compact, as well arranged, or as luminous as Dr. Leared's work on the same subject, its looser method makes it more readable, and its clinical material has a value outside of—perhaps higher than—the accompanying exegesis of the author. Of all the modes of book-making, it presents us with the simplest form; consisting chiefly of the record of cases kept by the *interne* at St. Mary's, eked out by illustrations from the private note-book, with such running comments as were made at the bed-side, or prompted by subsequent reflection. It is rather suggestive therefore than didactic, and the reader is given the opportunity of testing the value of the author's diagnosis and treatment. To a beginner, this is of great value in teaching him how to think; and the older practitioner can find its uses in the material it furnishes for study and comparison. It is this diagramatic element which gives its chief interest to such clinical records—where they are honestly kept—and ensures them, usually, a good reception. They pique curiosity and stimulate thought; and when the lecturer is modest they do not offend our prejudices as a more dogmatic essay is likely to do. This is one secret of Dr. Chambers' popularity, and his candor and fairness have well deserved the generous acknowledgment they have been accorded. Moreover, the book is his own; no small recommendation at a time when it is becoming fashionable to publish treatises which are centos rather than a mirror of personal observation and experience.

The drawbacks to this form of publication are just those which are most patent in the volume before us. The commentator is tempted to be excursive where amplification is unnecessary, and to substitute a hypothesis for a legitimate deduction where the facts are obscure. Led away, furthermore, by the personal interest he feels in his cases, the trivial and the commonplace are very apt to creep in, sometimes to the exclusion of more important matter; and it is hard to avoid that tendency to medical gossip which usually overflows in the consultation room, and of which the proceedings of many of our medical societies furnish such unhappy examples. It would have been unfair to expect of Dr. Chambers that he could have steered clear of all these dangers;—*hoc vitium est omnibus!* It is but justice to add that his faults in these respects are not glaring, and much that seems barren of positive value may perhaps claim audience on its negative merits.

The volume is divided into two parts; the first treating of the indigestion of the various foods, and the habits leading to indigestion; the second of the disorders arising from these causes, as abdominal pains, vomiting, flatulence, diarrhœa, constipation and costiveness, and the nervous diseases connected with indigestion.

"The link drawing into one class," says Dr. Chambers, "the morbid phenomena which are the subject matter of this volume, is a partial defect in the necessary supply of that of which the body is built up, before it arrives at the medium of distribution." Now if this rather obscure sentence means anything, it only affirms indirectly the physiological truism, that before the ingesta can be assimilated, before they can be applied to their final purpose of tissue-making, they must be

Digitized by Google

digested and absorbed. If the failure to accomplish this were the sole nexus, we should have a bald record of cases, illustrating merely the symptoms of indigestion and the result of treatment. But the author has done much more, for he has linked together the variety of appearances which the morbid phenomena present, by showing that some defect of nutrition, circulation, or innervation in the gastro-intestinal mucous membrane, underlies the suspension or perversion of the digestive fluids which cause the phenomena. His definition falls far short of his exegesis, and inevitably; because when he comes to apply his principles he finds them insufficient. That fidelity which we have said is his highest praise, compels him to account for conditions which are inexplicable on his belief that disease is nothing more than a deficiency of life, capable of being absolutely expressed by a minus sign. The error lies in taking account of only one of the elements of a condition which consists, essentially, in some modification—perversion—of nutrition. The phenomena of vital action are: destructive metamorphosis of tissue in the performance of function, and constructive assimilation. And the conditions necessary to maintain an equilibrium between the two, to preserve the normal state of parts which are momently wearing out by their own being, are that we shall have a right composition of the blood, a due supply of it, proper innervation, and a natural state of the part itself. Disturb one of these in any way, and a deviation from health instantly ensues, as surely as the thermo-electric needle is deflected by change of temperature. Take away the disturbing cause, which may operate through the tissues, the blood, or the nerves, and if the instrument be not too far deranged the part returns to its former state. But it returns *because of* its inherent elasticity, which has been all along resisting the change that a foreign power has compelled; just as the needle would return to zero were its efforts not antagonized by the heat applied to the face of the pile. It seems to us that the idea of antagonism is suggested, not of unity. Health and disease move in opposed not parallel lines. "The organic laws of health and disease are one," says Dr. Chambers. This we may be willing to admit in the restricted sense that pathology is physiology disturbed; but that this disturbance begins and ends with a mere abstraction of vital force, so that "the essence of the latter is a deficiency of the vital action which characterizes the former," we absolutely and unhesitatingly deny. It is as though a physician, fastening his attention upon the coldness of the surface in cholera, were to insist that the essence of the disease consisted in an abstraction of heat from the integument, to the disregard of all the other and antecedent phenomena. Besides, as a mere dictum it is not true. In tetanus—one of the purest of the *neuroses*—we have seen the rectus abdominis muscle ruptured during a spasm. Would Dr. Chambers assert that there was any deficiency of vital action there; or, was there not, rather, a disturbed motility of the spinal system of nerves, characterized by a terrible, if temporary, excess?

But the author goes still further. "Indigestion is a chronic disease. By that I mean that its natural path is straight on from bad to worse, unless from the interposition of some extraneous circumstances of accidental or designed origin foreign to the phenomena of the disease itself. While the tendency of acute disease, as I understand it, is to progress

Digitized by Google

in a circle towards the recovery of health; each process, however dangerous and abnormal it may be, being a step towards the final arrival at that result, if only the patient's strength holds out." Such reasoning, we are free to confess, is beyond our comprehension. So far from the process having a tendency towards health, it seems to us to be inevitably destructive at every step; and even where the fullest recovery ensues we believe that some permanent modification of structure almost always persists. Disease must set up, if it do not essentially consist in, a disturbance of the nutritive process, and whenever the structure of a part is impaired, that alteration will be perpetuated by assimilation. It may be too slight for our imperfect senses to detect; but, like the scar which grows with his growth, the formed material of the part, laid down on a wrong plan throughout the whole of life, preserves for the old man on the verge of the grave, the memory of the school-boy's first jack-knife. How else are we to explain the remarkable fact that certain diseases never affect us but once, and that others leave behind them an increasing liability to recurrence? Contrasted as these two classes of disease may seem, difficult as it may be to determine their essential difference, do they not equally illustrate the law which Mr. Paget has so beautifully developed, viz., "that an alteration once produced in a tissue, whether by external influence, or by morbid material in the blood, is likely to be perpetuated by the exactness of assimilation observed in the formative process, *i. e.*, by the constant reproduction of parts in every respect precisely like their immediate predecessors." That this does not always hold good, is only a proof of the existence of another and equally certain law: that a part changed by disease tends naturally to regain a perfect state. It is, in fact, the operation of this very tendency on the part of tissues to resist morbid change and to restore lost integrity that leads to recovery from the injurious impressions which disease inflicts.

If Dr. Chambers be correct, what constitutes the difference between a harmless and a fatal attack? Why should a patient ever die of acute disease when every process is a step towards recovery? If the whole progress is in a circle ever tending to re-establish health, why should not his strength always hold out? We can see no reason for its impairment in so beneficient a march, where every symptom, "however dangerous and abnormal," is only the *avant coureur* of certain victory. Or, why meddle at all? Why interfere with so benign and natural an *ordo*. If Dr. Chambers' proposition be true, we are worse than charlatans, we are murderers, thwarting the life-giving processes of disease with steel and poison.

The author has given no reasons for drawing so marked a distinction between chronic and acute disease, though the one, he tells us, is always "from bad to worse," and the other from better to better. In a foot-note, however, on the primary division of diseases, he happens to add: "Galen misses the practical point when he introduces the artificial element of time, pedantically limiting acuteness to a definite number of days. And several of our contemporaries have fallen into the same error; as if there could be any natural difference between an inflammation lasting twenty-one days and an inflammation lasting twenty-two days!" Precisely! and why not extend it to an inflammation lasting

Digitized by Google

a hundred days, or three hundred, or a thousand? Time, it is true, has no definite relation to the changes which have taken place in the fluids or solids of the body; but there must have been a point of departure somewhere. When did it begin? And if it had a beginning and went on "from bad to worse" in the chronic disease, why did it not follow the same course in the acute? It is evident that there must have been resistance, opposition; inefficient in the one case, dominant, effective, in the other. And if resistance, an opponent. Action necessarily implies an agent; and to those who reject the ontological view, this can be no other than those healthy processes of nutrition whose disturbance and perversion constitute disease. The more violent, sudden, and acute the interference, the greater the resistance; the more gradual, insidious, and inconsiderable the derangement, the more certain the deviation from the normal standard, and the more difficult the return to the original type. It is this very law which effects that slow alteration of parts that characterizes the various organs at different epochs.

Happily for his patients, Dr. Chambers is not free from that inconsistency which is common to our kind. Though he affirms "on principle" that disease means deficiency, and has a natural tendency to cure itself, we find him denouncing alcoholic stimulants in the treatment of indigestion, and using emetics, cathartics, and alteratives freely enough when occasion demands. We reject his principles and accept his practice.

Under the head Indigestion of Fat, will be found some excellent remarks—not novel but clearly and forcibly stated—on the physiological value of oils, and the relation between curable cases of phthisis and the power of assimilating fat. Believing with Dr. Tweedie Todd that this most fatal of all diseases begins with a strumous dyspepsia, we agree with our author that the main problems in the treatment of consumption are, to find the easiest assimilated oil, and to prepare the system for its absorption. Too much regard cannot be paid to this subject by those who have the responsibility of rearing children. The appetites should be studied, not treated as caprices; and where it is found impossible to overcome the repugnance to fats in any shape—a rare condition—the jam-pot and the sugar-dish should be allowed to take their place. Many a mother has sowed the seeds of fatal disease in her ricketty and fat-detesting child by a foolish prejudice that sugar is bad for the teeth, or stomach. "It is not good for you," is the simple domestic formula by which the beneficient instincts of childhood are suppressed, and that doom invoked with which Nature inexorably vindicates her violated laws.

The deficiency in the assimilation of fat is not apt to be strikingly apparent before the age of puberty; but after that period, in girls especially, wherever the supply has been insufficient, it is almost sure to manifest itself. Now, the question occurs, what has puberty to do with fat? Why do girls in normal health who have shown a repugnance to it during childhood instinctively take to it after menstruation begins? In illustration of this curious change of taste, this marked line which seems to be drawn between the child and the woman, in their relish for a particular class of food, Dr. Chambers relates an instructive anecdote which he had from the chief actor. The case is so apposite that we make no apology for giving it entire.

Digitized by Google

Case XL.—In 1825 or '26, the late Mr. Ridout, a much respected surgeon in the neighborhood of Russell Square, was summoned to St. Albans, to see the apprentices who, to the number of sixty, were employed in the Abbey silk-mills at that place. A great number of the inmates of the house were suffering from a variety of obscure symptoms of various degrees of intensity. On examination of the invalids he arrived at the suspicion that their illness depended on the poison of lead, and advised their being treated accordingly. In the mean time, specimens were reserved for analysis, the milk vessels made of crockery were examined for the metal in question; but nothing deleterious was found, nor had any part of the building been recently painted. Still fresh cases kept occurring, and those who had recovered relapsed, and had colic a second time. The cause of the evil was evidently permanent.

Now the surgeon in ordinary attendance had been loth to agree to the diagnosis which assigned the symptoms to lead-poison; from some connection which seemed to exist between the occurrence of the disorder and the uterine functions. Not only were the catamenia arrested in those attacked, but it was observed, that all the girls under puberty had wholly escaped, while all who had ever menstruated, from the maiden of fourteen to the matron superintendent, were affected in various degrees.

The search was still continued for the avenue by which the lead had entered the system, and the mystery was at last solved on probing to the bottom of a salting trough in which fat pork was kept. It was found to be lined with the deleterious metal, and to have impregnated the outside of each joint with the poisonous carbonate. Inquiries were then made of the apprentices themselves for some link which would connect this discovery with the anomalous escape of some parties and injury to others. It appeared that this fat pork was placed on the table three times a week, but never alone, being always accompanied by some fresh meat, and the girls were at liberty to take which they liked. Now on questioning them it came out, though not previously observed, that the older apprentices and adults always ate the pork, while the little girls—all, that is, under puberty—invariably chose mutton. The disease, which had attacked the one and spared the others, was a test of the truth of the statements which they had made.

Now, as the author remarks, this newly acquired appetite for fat meat at the age of puberty is a most interesting fact. If more observable in females than males, indications of it are not wanting in boys. There can be no doubt that some connection exists between it and the exercise of the new corporeal functions, which are now, for the first time, called into play. Dr. Chambers has given, we believe, the correct solution, for women at least, when he points to the lungs as explaining the phenomenon; though it should not be forgotten that the whole body shares in the development which occurs at this epoch.

According to Andral and Gavarret, the amount of carbonic acid exhaled increases in both sexes up to about the thirtieth year; after forty-five it diminishes. Beyond eight years of age it is greater in males than females; but the same proportionate increase take place in females up to puberty, when the quantity abruptly ceases to increase, and remains constant as long as they continue to menstruate. When the catamenia

Digitized by Google

cease, the exhalation of carbonic acid begins to augment, and finally diminishes, as in men, with the advance of years. Should menstruation, however, be arrested at any time, either by pregnancy or from any other cause, the pulmonary excretion immediately rises, just as it does at the permanent cessation of the function. It is, therefore, to the vital actions expressed by the varying functions of the uterus that we are to look, in part at least, for an explanation of the appetite which prompts more fatty food to be taken at a time when the power of that organ to decompose carbon is called into play. The practical hint is "the importance, at that critical period in woman's life, of watching over the digestive organs, especially in respect of their appropriation of fat, then so eminently necessary."

Dr. Chambers is less happy in his physiology of Gastric Digestion. If Brucke's investigations are worth anything, , they show that pepsin is secreted in a neutral state, and only mixed with the acid after its discharge from the cells in which it is stored up. And Bernard's beautiful and well known experiment, with injections of lactate of iron and ferrocyanide of potassium, corroborate the view that the pepsin and the acid are secreted in different portions of the gastric mucous membrane. The fluid of the stomach, therefore, may be intensely acid, yet deficient in true digestive power, a fact which the author seems to have overlooked.

Nor do we agree with him that Dr. F. G. Smith's observations "show conclusively that in the human subject, the acid secreted is not hydrochloric, but probably lactic." Dr. Dunglison obtained hydrochloric acid readily from the gastric juice of the same subject, Alexis St. Martin, and tells us that he could even recognize it by the smell. And Graham's method of dialysis freed his examinations of this secretion from the objection which Bernard urged, and which Dr. Chambers repeats, that the hydrochloric acid is a distillate, the product of the decomposition of the chloride of sodium present by the nascent lactic acid.

The whole of the section devoted to a consideration of the habits which lead to indigestion is admirably written, and remarkable not more for its nice appreciation of the incidental causes of the disease than for its rare moderation and good sense. The author condemns the abuse of alcohol without preaching a crusade in favor of total abstinence. To the health of the bulk of mankind, the habitual moderate use of alcohol, he thinks, is probably quite indifferent; and the unanswerable argument in favor of fermented liquors, that they are nice, he admits is no mean one, since it evidently weighed with our Divine Master when he gave the marriage guests of Cana a finer vintage than any they had ever tasted.

He can discuss the evils of tight lacing without imagining that he can cure women of this or any other folly which contributes to what has been declared the chief end of the sex, to look beautiful. The habit of sluicing themselves with tea, which is as common to the women of this country as of England—though Boston has not yet aped London in her five o'clock "drums"—Dr. Chambers properly denounces as injurious, especially to those whose food is coarse, and who thus destroy their appetite and weaken the gastric juice by dilution. Tea seems to be more injurious to the stomach in the form of infusion than otherwise,

Digitized by Google

and perhaps for this very reason. For, as a rule, we know how unadapted "slops" of every sort are to persons of feeble digestion. "Tea-tasting," which is performed by rinsing the mouth with a little of the strong infusion, but principally by smelling and chewing the leaves, seems to produce no bad effects. Sometimes a "tea-taster" may find himself a little nervous after a long day's work, but this is all. Neither the digestion nor the appetite suffer from the trade; though after a while the tongue acquires a "curious smooth orange-tinted coating."

Dr. Chambers could find but one case where smoking alone could be proved the origin of dyspepsia. In every other instance drinking was joined with it as the decided efficient cause. This is our own experience; we have never known the digestion to be affected by smoking where the use of tobacco was not associated with some excess quite sufficient in itself to account for all the symptoms. Snuffing, we agree with the author, is a much more deleterious practice; for a large quantity of the tobacco must get into the stomach from the back of the nares, as is proved by the fact of its disappearance from the nasal passages, though as much as an ounce be taken daily.

The chapters on Vomiting and Diarrhœa, are specially noticable for their sound and suggestive pathology, and the record of cases under the rather vague head of Abdominal Pains is full of interest, and throws much light on a class of symptoms very hard often to refer to their true source.

It is unusual to meet with a book, otherwise so commendable, written in a style so curiously bad. Had it come from an American, the English reviewers would have taken pains to point out its inaccuracies and to sneer at them as Yankeeisms. We are not so critical as to expect high finish in clinical notes; but in a work offered to the acceptance of a learned profession, and that by an educated English physician, we confess our surprise at meeting with such vulgarisms as "she seemed to catch a cold on the chest," such bad grammar as "no one need take *without* they like," "she improved *slower* but *steadier*," such cacophony as "bracing up the mind to the resistance to the instinctive shrinking against the shock," and such new-coined words as "functioning" and the like. J. D. B.

"Elements of Human Anatomy, General, Descriptive and Practical." By T. G. RICHARDSON, M. D., Professor of Anatomy in the Medical Department of the University of Louisiana. Second edition, carefully revised, etc., 671 pages. J. B. Lippincott & Co., Philadelphia; 1867. Krull & Dickey, New Orleans.

"Obstetrics, the Science and the Art." By CHARLES D. MEIGS, M. D. Fifth edition, revised, 760 pages. Henry C. Lea, Philadelphia; 1857. Krull & Dickey, New Orleans.

"Modern Anæsthesia." By the Hon. TRUMAN SMITH; 165 pages. Brown & Gross, Hartford; 1867. J. A. Gresham, New Orleans.

"A Theory of Inflammation." By NELSON L. NORTH, M. D., 46 pp. From the author.

Digitized by Google

SOUTHERN JOURNAL

OF THE

MEDICAL SCIENCES.

NOVEMBER, 1867.

ORIGINAL COMMUNICATIONS.

ART. I.—*Mechanical Apparatus for After-use in certain cases of Resection of the Humerus, with a Preliminary Consideration of the Surgical Pathology of such cases:* BY SAMUEL LOGAN, M. D., Professor of Surgery in the New Orleans School of Medicine.

THE recent war has afforded a rich field for the study of the subject of resections. In Circular No. 6, from the Surgeon-General's office, U. S. A., an aggregate of five hundred and seventy-five cases of the operation at the shoulder-joint are reported. As a general rule there is good reason to believe that the operation is less fatal than either amputation at the joint (or worse) surgical non-intervention. The per centage of mortality in the above mentioned cases of resection was 32.48, while that of amputation was 39.24, and in those cases where no operation was performed, 44.40. But we cannot go further into this phase of the subject. We propose at present to consider only the *after-pathology* of resections of the humerus, and to describe an apparatus we have devised for aiding the remaining functions of the limb when such assistance seems to be required.

In studying the after-pathology of such cases, it will be convenient to direct our attention, *first*, to the state of the bone, the extent of its removal, the character of its new attachment, the manner in which the particular condition of the bone and its new connections affects the func-

Digitized by Google

tions of the muscles;—and *secondly* to the condition of the soft parts, more especially the muscles, and the manner in which, and the degree to which their actions have been modified.

1st, as to the BONE. Sometimes its upper portion has been removed to a point below the attachment of the deltoid and the remaining lower portion may, perhaps, be found connected by tolerably short and unyielding fibrous bands to the scapula; or, in case the resection has not involved the shoulder joint, the two fragments are thus closely united by fibrous tissues; while in other and more frequent cases, especially where all the bone above the point alluded to has been removed, the fibrous attachments will be found to be long or entirely absent, permitting, more or less, a hanging down of the lower portion.

It will be well to analyze the particular influences on the functions of the different muscles exerted by these two conditions of the bone. Let me describe, as an example, one of the numerous cases I have examined during and since the late war—a case which I would regard as among the least favorable. A lieutenant-colonel of a South Carolina regiment in the Confederate army, had the head with about four inches of the humerus of the left arm excised early in the year 1864. The straight incision was adopted. Recovery was very tedious, and no attempt could be made, or at least persisted in, to keep the remaining portion of the humerus in such proximity to the glenoid cavity, as would have invited the formation of short and firm adhesions. The result is that it now hangs loosely some three and a half inches or more from the joint. When he removes the mechanical apparatus, which, by my advice, he had been wearing, it swings with most uncomfortable looseness at his side, and is comparatively useless. In such a case the bone, thus hanging loosely in the soft parts, and drawn down by the weight of the forearm, is affected as follows by the respective muscles. The biceps and the long head of the triceps tend to lift up the fragment, and with it the forearm; and this comparatively useless function absorbs almost, if not quite, the whole of their contractile power, so that little or no force is left to the triceps for extension. The biceps, in such cases, has little or nothing to do with the flexion of the fore-arm. This function is almost entirely dependent upon the brachialis anticus and supinator radii longus. Should the triceps be called into individual action, we find that its scapular or long head can no longer extend the forearm, on account of the want of leverage of the humerus, as well as because its whole contractile force is exhausted in lifting the fragments; while the practical benefit to be derived from the action of the two shorter

Digitized by Google

heads would be materially impaired by the tilting backwards of the humeral fragment. All requisite extension can be effected; but the result is produced less by the muscular action than by gravity, the forearm naturally falling into extension by its own weight. This fact can be clearly demonstrated in such cases by placing the patient in a chair with his injured arm extended at a right angle to the body and with his arm-pit level with a table, on which his arm should rest on its inner aspect and with the elbow flexed. Request him then to extend it, and it will be found that he is unable to do so until you have elevated one side of the table so as to make of its surface an inclined plane of such a dip in the direction of extension of the forearm, that the force of gravitation, perhaps faintly assisted by the two shorter heads of the triceps, becomes sufficient to overcome the inertia of the limb, and the friction between it and the table, when the forearm *will* literally fall into extension.

The coraco-brachialis and the deltoid, should any of their fibres continue attached to the humerus, can do little else than assist in lifting up the suspended limb.

The brachialis anticus and the supinator longus are the main agents in flexing the forearm; but without the proper mechanical assistance, the benefit to be derived from their action is much impaired, as we will now to proceed to explain.

So movable is the loosely attached fragment of the humerus, from which the upper portions of these last mentioned muscles arise, that this fragment is drawn forward by them, and may be seen, projecting under the skin on the anterior aspect of the arm. This really produces perfect flexion as far as the joint is concerned; but the practical benefit of that flexion is more or less annulled in an exact ratio to the degree of forward displacement of the humeral fragment. If, however, in any case of this kind, this forward displacement be prevented by the surgeon placing his hand in front of the bone, and holding it back towards its normal position, it will be at once perceived that the benefit of the flexion is made the more available, to a degree exactly commensurate with the more or less accurate retention of the bone in its normal position. This is an important fact, and should be borne in mind when applying mechanical assistance. We usually speak of the limited degree of flexion in such cases. This is an incorrect expression. The flexion of the joint is fully accomplished, but the hand cannot be carried to the face because of the tilting forward of the humeral fragment. The indication is therefore plain, *i. e.*, to retain the bone in its position.

Digitized by Google

If, therefore, the supinator radii longus and the brachialis anticus be preserved in a healthy state, as is generally the case, this power of flexion can be made available for almost, if not quite all its normal purposes. Here a proper apparatus proves of very marked benefit. I may mention a case peculiarly illustrative of this fact, in which the condition approximates very nearly to that of the one already cited. Before I applied the apparatus, the patient could barely get his hand up to the epigastric region; after I had done so, I requested him to flex his arm forcibly; he inadvertently everted the muscles vigorously, and, to his evident astonishment, he gave himself a smart slap on the mouth.

Let it be borne in mind that the above remarks apply to those cases in which from three and a half to six inches of the bone have been removed with the head, and in which at the same time, the upper end of the fragment has failed to contract such adhesions as would have prevented that excessive mobility which impairs to a great degree, the functions of the forearm. These are among the worst cases we meet; but even here although the patient may have gone through a great deal of suffering, he has good cause to congratulate himself, for the limb is still far more useful than any artificial arm.

When the resection has been performed higher up, between the point of attachment of the deltoid and that of the pectoralis major and latissimus dorsi with the teres major, the condition presented is more favorable, especially if the deltoid muscle be comparatively uninjured. This is generally the case when the method of operating by the straight incision has been practiced; and this has been the one almost universally chosen.

The deltoid, the biceps, and the coraco-brachialis, with the long head of the triceps, in these cases, will have generally drawn the remaining portion of the humerus pretty high up—especially if they have been assisted by the proper dressing—and it will have been thus placed in such proximity to the scapula as to have invited the formation of pretty short and strong fibrous connections to that bone. The shorter these connections, the less will be the forward displacement of the humerus when the brachialis anticus and the supinator longus act, and the higher will the hand be carried towards the face by the flexion of the elbow-joint.

Then again, should the bone be divided above the pectoral and dorsal muscles some other functions of considerable importance will be preserved; while the efficiency of these functions also will, in a great

Digitized by Google

measure, depend upon the nature of the fibrous connections formed. They are the motion in a *forward* direction of the whole limb, *abduction*, *adduction* and *rotation*.

In the *first* place the limb can be carried *forward* in these cases. This function is greatly impaired or oftener lost, when the bone is excised lower down. In the case first cited this loss is very much regretted. The patient moves the limb forward either by means of the other hand or by causing the fingers of the injured arm to crawl along the surface of his thigh, as he sits, and thus drag on the rest of the member. When the bone has been divided above the attachments of the pectoral and dorsal muscles, however, and short adhesions have been formed, if the pectoralis major and the deltoid act together, the resultant effect of the force they exert produces a forward movement of the whole limb. The coraco-brachialis and the biceps also may sometimes assist in effecting this movement; and were it not indeed for the fact that the contraction of these muscles is exhausted in lifting up the fragment in cases (like the one first cited) where there are no fibrous attachments, or at any rate very long or loose ones, *they* could move the limb in a forward direction, even when the resection has been performed below the insertion of the pectoralis. They can so act if the bone has formed firm and short connections with the scapula—especially the coraco-brachialis, because, unlike the biceps, it is composed almost entirely of muscular fibres, and can therefore better accommodate itself to the shortened space allotted to it, and can act the more vigorously in that space. The higher up the bone be cut, the longer will be the leverage, and the less will the muscles be contracted, and consequently the more effectually will they all act, although this will also greatly depend upon the degree of stability of the fulcrum. This is represented by the upper end of the humerus, and its stability depends upon the character of the new fibrous connections.

In the *second* place, the deltoid insertion having been preserved, we may find the function of *abduction* still present in a greater or less degree; provided, first, that the muscle has not been too much damaged by the knife or the missile; secondly, that the fibrous connections be not too lax; and, thirdly, that the circumflex nerve has not been injured. I apprehend that the loss of this function is more frequently to be attributed to paralysis of the deltoid resulting from the injury sustained by this nerve, either from the missile or by the knife or saw of the operator, than to the direct violence inflicted on the muscle itself; and I cannot but think that in not a few of the cases in which the power

Digitized by Google

of abduction has been lost, the result might have been avoided by a due appreciation of the importance of taking care not to injure the nerve unnecessarily while clearing off the neck of the humerus for incision, or while sawing it through. It has been my habit to try and avoid it by taking it up with the soft parts when preparing the bone for the saw, and by hugging the bone with the knife.

In the *third* place it is easy to see that the attachments of the pectoralis major, in front, and the latissimus dorsi and teres major behind being preserved, the limb can be carried inwards in *adduction*, and either in front of or behind the chest; being assisted in the one case by the coraco-brachialis and shorter head of the biceps in front, and in the other case by the long head of the triceps behind. If all these muscles act together the arm can be applied firmly to the side. The degree to which this function is preserved will also depend in great measure with other functions, upon the character of the fibrous connections at the upper end of the bone.

In the *fourth* place, a few moment's consideration will enable us to understand, that, in the cases now under discussion, the function of *rotation*, also, may be performed, provided we still have the insertion of the latissimus dorsi and teres major muscles intact. These muscles coming from behind and going to the internal aspect of the humerus as they do, must rotate that bone inwards, as well as draw it backwards. The external rotation is effected in a more indirect manner; indeed, for the main cause originating this motion we must look all the way down to the forearm. The two supinator muscles, by throwing the radius, and with it the hand, outwards, cause the humerus to rotate externally, because the weight of the hand and radius now, while in the position of supination lies outside of an imaginary line representing the axis of the humerus prolonged. The result necessarily follows, and the humerus is *rotated outwards* on its axis. This principle can easily be demonstrated experimentally on oneself. It will be at once perceived that while the weight of the hand with the radius is thrown inwards, by placing them in the position of pronation, the humerus naturally falls into a position of internal rotation; whereas, as soon as we supinate the forearm, the humerus naturally rotates outwards.

It will thus be perceived that when the resection has been performed above the insertions of the pectoralis and the latissimus dorsi with the teres major, and the case has been conducted to a favorable termination, especially as to the particulars specified, all the functions of the arm may be preserved. Such a result in cases formerly subjected to ampu-

Digitized by Google

tation, or a course of non-intervention, is truly a great triumph for modern conservative surgery, especially when we take into consideration that, as a general rule, the patient, at the same time that he saves his limb, runs absolutely less risk of his life.

If a still greater portion of the humerus be excised than in any of the cases we have considered, pretty nearly the same principles will apply. One case is reported by Dr. J. B. Cutter, in the American Journal of Medical Sciences, for January 1866, in which the whole bone had been removed, and an arm said to be preferable to an artificial one,—especially when assisted by an appropriate retentive apparatus, was the result.

2d. We come now to consider more especially the condition of the *soft parts* after the resections.

Those *muscles* whose points of attachment have been removed will most frequently be found atrophied to a mere skeleton. In one case I found the pectoralis major so thin, that when the patient was requested to carry the shoulder forward and downward, for the purpose of calling the pectoralis minor into action, this latter muscle became so prominently mapped out under the skin one would hardly have thought that any of the substance of the former remained over it. Sometimes, by means of new attachments, the action of the muscles may, in a measure, be kept up; and then a corresponding retention of their shape and size will be observed.

If the muscle has been only divided,—as the deltoid is in certain methods of operation,—it may re-unite; and its functions may be then more or less restored, modified, however, by the condition of the bone and its connections, in accordance with the principles already discussed. But while recognizing these principles we must bear in mind that the adhesions must possess sufficient pliability to permit the two bony surfaces to move upon each other, as in a joint. In other words there must not be a condition similar to that kind of anchylosis of a joint (even of the soft variety) where the fibrous bands are too stiff for the muscles to bend them.

The rotators attached to the tuberosities lose all function except when the operation has been performed in the continuity of the bone, and osseous re-union has taken place. In the cases where rotation is preserved, I apprehend that the motion is due, as already explained, to the latissimus dorsi and teres major, with the pronators of the radius, for internal rotation, and to the supinator and the weight of the forearm for external rotation, rather than to any supposed new attachments

Digitized by Google

of the proper rotator muscles. Even if these muscles have formed any new attachments, they will have lost the leverage for effecting rotation formerly afforded them by the projection of the tuberosities of the head of the bone. A recent writer recommends that in performing the operation as much as possible of the periosteum and even bone be left where these muscles are attached, in order to preserve their functions of internal and external rotation. The rule for other reasons is a good one; but it is more than doubtful to my mind whether these functions can be performed without the aid of the agents above designated.

As a general rule then, the shorter the connecting bands of adhesion the more efficient will be the action of the muscles, since the bone will be the less easily removed from its normal position.

It is needless to say much about muscles situated exclusively above the seat of operation, for their insertions are gone. In some few cases they may form new but imperfect attachments, and perhaps produce some little effect. It must be remembered that in such cases these new attachments have been formed while the muscles, with their natural tonic contractility have drawn themselves into a lesser space than they normally occupied, in so far lessening their power for renewed action. Taking this fact into consideration with all the other abnormal conditions present, we can understand how many disabling circumstances would attend the resumption of their action. The muscles almost invariably become atrophied.

Sometimes the function of a muscle may be found to have been more or less impaired by inflammation of the sheath of its tendon or by inflammatory plastic effusions among its fibres or around it; or cicatricial adhesions may occur, tying the muscle to its surroundings. These conditions, however, will often improve with time and use, in accordance with what seems to be an ever present conservative principle in pathology, *i. e.*, that all newly-formed, misplaced, or adventitious tissue has a tendency gradually to disappear by absorption. This principle is clearly shown in the oft-repeated failures in the attempts at the radical cure of hernia by plugging up the canal and depending on the new adhesions.

It will be unnecessary further to consider each muscle as it is individually affected by the various conditions met with. We have already done so with sufficient detail for all practical purposes, when speaking of the relations subsisting between the various pathological conditions of the bones and the functions of the muscles.

The *nerves* may be affected in three ways—by the missile, by the

Digitized by Google

knife of the operator or by effusion of plastic material from inflammatory action; and whether the result be produced by any one of these means, or by more than one combined, we will find various degrees of impairment of function, even to complete paralysis.

When the trouble is referable, however, to plastic effusion, it seldom results in complete paralysis; and in many cases of partial paralysis (and sometimes too when it has been complete) ultimate recovery of innervation will take place.

We have already spoken of injury to the circumflex nerve, either by the missile or the surgeon, and of its effects; and we have pointed out the importance of avoiding it during the performance of the operation. The same precautionary remarks will apply to the case of the musculo-spiral nerve, especially when operating below the neck of the bone, where the nerve courses spirally round it, hugging it for some distance. It must be remembered that this nerve supplies all the extensor and supinator muscles of the forearm, as well as the triceps extensor cubiti and, in part, the brachialis anticus. Paralysis, either partial or total, temporary or permanent, of all these muscles would result from its injury, as also a numbness or loss of sensation—sometimes temporary, sometimes permanent—on the back of the hand and fingers, excepting those supplied by the ulna nerve. In some well marked cases I have had reason to believe that the importance of avoiding this nerve had been overlooked by the operator; nor do I recollect that any writer has hitherto called due attention to this matter, or to the importance of a like precaution concerning the circumflex nerve. These are the only nerves which lie so near the bone as to get much in the way of the knife, unless it be guided by a very ignorant, careless, or unskillful hand. It is also to be borne in mind in this connection, that, as I have already pointed out, the supinator radii longus acts powerfully as flexor of the forearm, so that its paralysis will seriously impair that very important function.

From what I have elaborated above, I think I may lay down the following propositions in reference to our subject.

1st. Should the humerus be excised at its surgical neck, and short fibrous connections form between the shaft and the scapula, we may expect in many cases to find all the natural functions preserved, and often to a degree almost perfectly normal,—even the rotation of the bone being effected,—though the proper rotators have lost their points of insertion, by the compensating action of the latissimus dorsi and teres major, producing internal rotation, and by the supinators of the radius

Digitized by Google

throwing the weight of the hand outwards, and thus effecting sufficient outward rotation for all practical purposes.

2d. Should the bone be divided below the attachment of the pectoral and dorsal muscles, but above that of the deltoid, then adduction, abduction, rotation and the forward movement will all be seriously impaired or destroyed, according to the character and the length of the new connecting structures.

3d. Should the bone be divided below the attachments of the deltoid and coraco-brachialis, adduction, abduction and the forward movement are necessarily lost; and the practical benefits of flexion of the forearm are more or less impaired (in proportion to the length of the adhesion), by the forward displacement of the humeral fragment necessarily effected by the action of the brachialis anticus and supinator longus, unless this displacement be prevented by the use of a proper apparatus.

4th. Extension of the forearm in the last two conditions is effected much more by simple gravitation (often exclusively so, as demonstrated by the experiment recorded), than by muscular action.

5th. The loss of the power of abduction may result from injury to the circumflex nerve during the operation. This nerve should therefore be carefully avoided. So, too, impaired flexion at the elbow-joint, and paralysis of the extensors and supinators on the back of the fore-arm may result from like injury to the musculo-spiral when operating lower down, unless the surgeon be careful to avoid it.

I trust I have been able to make intelligible to the reader who has followed me through the above pages, the pathological principles which a studious analysis of the subject—based upon a careful observation of the great number of cases, both of my own and of others which came under my notice while a surgeon and Medical Inspector in the Confederate army—have fixed upon my mind. It was upon a due practical recognition of these principles that I based my endeavors at devising such an apparatus as would be of service in those cases where mechanical assistance seemed to promise increased usefulness of the limb.

In many instances no apparatus whatever is needed. Such are the cases described in the first of the above propositions. This whole class then may be now eliminated from the discussion.

It is especially to the conditions expressed in the second and third propositions that our efforts at assistance may be considered as applicable.

We have already seen that so far as the flexion of the elbow-joint is

Digitized by Google

concerned, this indication is plain enough, viz., to use such an apparatus as will keep the remaining portion of the humerus as nearly as possible in its normal position, in order that all the force of the brachialis anticus and supinator longus may be applied towards moving the forearm up, instead of being uselessly exhausted in projecting the humeral fragment forwards. This indication—and it is of the first importance—can be very satisfactorily fulfilled by the following apparatus, which I have repeatedly tried with very marked success in every case to which I consider it appropriate. It may be regarded as the type, upon which may be constructed all the appliances capable of benefitting any of these cases; and it may be described as composed of three pieces. Let a firm pad of any convenient material,—pasteboard, gutta percha, starch bandage or starched pasteboard (which is better), padded leather, etc., be made to fit the top of the shoulder of the affected side snugly. This is the *first* portion, and it is to he held in position by straps, passing in front and behind, around the thorax and under the opposite armpit. The second piece consists of a strong parallelogram or splint, made of steel, wood, very stiff sole leather, or very stiff pasteboard well starched, this last material being used as an extemporaneous means, or only to make a model for a workman, or to show the patient the benefit to be derived from having a proper apparatus constructed. It should be about two to three inches in width, according to the strength of the material used, and long enough to extend from the external and posterior edge of the shoulder up to near the elbow. Its length would of course vary according to the degree of retraction upwards of the bone and the consequent shortening of the upper arm; though this part of the instrument can be made with a sliding scale, so as to suit any length of upper arm. This perpendicular piece must be strongly attached to the shoulder cap at its external and posterior aspect, so as to be opposite the brachialis anticus muscle, which, in the natural and easy position of the limb, looks inward as well as forward. It will then be against the postero-external aspect of the limb, which it may be made to fit snugly but not too tighly. The *third* piece consists of a band of leather about five or six inches wide and long enough to extend around the upper arm. It is to be buckled or buttoned at each end to the edges of the longitudinal plate at the lower end of the latter, and so arranged that it may be tightened or slackened at will. Its width should be such as to make it like a cylinder clasping the arm, and it should be tolerably stiff.

This simple apparatus, which may be extemporaneously constructed

Digitized by Google

by any one who has any mechanical turn, will be found of infinite value in those cases where a large portion of the humerus has been removed, and where either no connecting fibrous bands have been formed, or only long and loose ones,—allowing the humeral fragment to dangle freely among the soft parts. Here the patient will almost always be found to be unable to carry his hand to his mouth, on account of the forward displacement of the humerus, as already explained. The apparatus applied with comfortable firmness, prevents this forward displacement, and generally enables the wearer to carry his hand all over his face. Its effect was well illustrated in the case already alluded to, in which the patient inadvertently struck himself on the mouth, to his great surprise, when he had never before been able to get his hand much above the epigastrium. It may be applied next to the skin, or outside of the shirt, or between it and the undershirt. The latter plan is preferred by a patient, who has worn it longest. It was first designed and applied by me in February, 1865, for the lieutenant-colonel already alluded to, in whose case all the functions of the upper arm were lost, except flexion of the elbow, if that movement be regarded as appertaining to the upper arm. The bone had been divided below the deltoid, and the fibrous connections were quite long, indeed hardly perceptible under examination, making it very doubtful whether any existed. He has found it of so much benefit that he feels exceedingly uncomfortable without it, the limb hanging so loosely that he even sleeps with it applied.

But this apparatus, as above described, and unmodified, is not perfectly adapted to all cases of excision requiring mechanical assistance. In the hands of a good mechanic, however, it can be modified to suit any case, by means of a joint at the junction of the first and second pieces. In those cases, for example, where the power of moving the arm forward is still retained the apparatus would entirely prevent this motion. In such a case it will be advisable to have a joint at the point of junction between the first and second pieces, so arranged as to permit an antero-posterior movement of the latter on the former. Then again, should adduction and abduction remain, and still the bone be so loosely attached at its upper end as to require support, the first two pieces may be connected through the medium of a joint which will permit of a corresponding movement inwards and outwards. Or still again, if both the forward and the lateral movements remain, a joint may be constructed which will permit of all these motions. Neither of these arrangements will in the least degree interfere with the efficiency of the appli-

Digitized by Google

ance in opposing the anterior displacement of the humeral fragment, which detracts so much from the benefit otherwise to be derived from the flexion at the elbow-joint.

An apparatus, then, with the first two pieces connected by means of an artificial ball and socket joint will answer for any of the cases. An apparatus of this kind has been made to my order by Messrs. Tieman & Co.

Generally where mechanical assistance was required, all the functions of the upper arm had been lost, except flexion at the elbow-joint; or if any of the others did remain, they were apt to be so much enfeebled as to be of little benefit. This fact, however, should not militate against having the artificial joint, for this allows the arm to swing naturally at the side; and if the joint be so arranged that it can be stiffened at will, by means of a spring-clasp passing from one piece to the other, or a screw, the arm could be placed or retained in any degree of anterior or posterior adduction, at any angle of abduction, or at any stage of the forward position, as the patient may desire.

But the patient need not be kept waiting until a nicely made apparatus can be procured. The simple dressing first described should be immediately placed upon his limb, extemporized for the purpose, and he will at once begin to experience an increasing benefit from its use.

In a conversation with one of our most distinguished and experienced surgeons, he expressed himself in favor of some modification of whatever apparatus was used, by which the fragment of the humerus, with the forearm, might be brought up towards the shoulder and held there; indeed this supposed desideratum seems to have taken a hold upon the minds of the profession at large. With all due deference, I must say that I cannot conceive how this would benefit the patient; nor, indeed, have I ever found it to do so. Support to the forearm recently after, and during recovery from the operation, is often required for the comfort of the patient, as well as for other considerations; but the necessity even for this almost always passes away in time, if the patient be made to accustom himself gradually to the pendent position of the arm. The elbow never hangs lower down than its natural position; and a shortening abnormally, of the upper arm can, taken simply by itself, produce no good. Such shortening, of course, should occur during the treatment immediately succeeding the operation; but it is only incidental to the formation of short bands of adhesion between the remaining portion of the humerus and the scapula. The benefit resides in these short and firm bands of adhesion, and not in the mere fact that the limb is short-

Digitized by Google

ened. This abnormal condition, taken alone, would indeed be a positive advantage. Why, then, when we have failed to obtain the short adhesions, should we desire to produce the shortening of the limb? Had we the former, then the latter condition would necessarily obtain; not because it is desirable—far from it—but as a necessary evil accompanying the greater good. It is eminently proper that such dressings as will elevate the humeral fragment should be applied during the treatment following the operation, in order to invite the formation of the short fibrous connections so important to the after use of the limb; but the use of such appliances as mechanical assistants afterwards can be founded upon no intelligible pathological principles; and they are of no assistance whatever to the remaining functions of the arm. It will, moreover be found that they cannot be applied without seriously interfering with the motions of the limb. Their use is therefore not only negatively but positively evil.

I had peculiarly favorable opportunities during the recent war for the study of this subject, and the above are the conclusions derived. I think it likely that I was the first surgeon, at least in the Confederate army, to perform the operation for gunshot injury; and it is, perhaps, on that account, as well as from the intrinsic importance of the subject itself, that, all through the war, I took special interest in such cases. The first case I operated upon was in the person of one of the prisoners in the city of Richmond, taken at the first battle of Manassas, and operated on by me within a month after the battle, at the Alms-House Hospital, in that city. The patient recovered with good use of the arm, and was ultimately exchanged.

ART. II.—*Action of Mental Conditions upon the Bodily Organism:* By J. W. CALDWELL, M. D., New Orleans, La.

THE relation between Mind and matter, has been a fruitful theme for metaphysicians of all ages; but the innumerable discussions and disputes have ever terminated most unsatisfactorily, as regards the furtherance of human knowledge. We have been taught nothing by them, except that there is a limit beyond which the mind of man may not pass; a fact, which, had it been acknowledged and acted upon, would have silenced many an unprofitable controversy, and saved much waste of words. In all probability, we shall never be able in our present con-

Digitized by Google

dition, to fathom the depths of this problem, the solution of which must be left to the revelations of a higher state and of another world, where we may hope to gaze fearlessly upon the face of the sun which so dazzles us now—where we shall not "see through a glass darkly"—but where "*we shall know, even as we are known.*"

And is it at all strange, that this should be the case with respect to mind, that imponderable, invisible, ethereal essence, in all its complicated relations to matter, when we consider how very limited is our knowledge as regards the commonest objects of the external world with which we find ourselves every day in contact? Why, we know not the *essence* of anything; of wood, or iron, or glass. All that we do know, or can say in regard to these objects, in the way of defining them consists in an enumeration of *their phenomena*—the modes by which they affect other objects, or are in their turn, affected by other objects,—and the character of the sensations which they produce upon the mind, through our five senses which are the media of communication between ourselves and the material world without.

A knowledge then, of *relation*, being absolutely all that we can have, as to *matter*, is it to be wondered at, that we cannot penetrate the substance of that subtle something which we call *mind*, nor from the dark recesses of thought, deduce its *essential* character? We must therefore content ourselves with the *phenomena of mind*, as with the *phenomena of matter*, without attempting the inexplicable. The *phenomena* then must be taken up, examined and compared—a difficult task indeed—and these examinations and comparisons carried to their farthest extent, will comprehend the sum total of human knowledge.

We have to do, then, with two distinct classes of laws—the laws which govern *mind*, and the laws which govern *matter*. Many philosophers, for the sake of simplification, have endeavored to expunge from their different systems, one or the other of these *factors* (mind and matter) which go to make up the resultant. Some, on the one hand, deny the existence of mind, other than as a natural and physical development of material organization. "Thought is a secretion of the brain," says one; says another, "the brain produces thought in the same way as the liver produces the bile, and the loins urine." Thought is again defined to be only the effect of nervous electricity. "There is the same relation between thought and the electric vibrations of the cerebral fibres as between color and the vibrations of the ether." And, to sum up the whole, "Thought is a movement of matter." Thought, then, being but the function, or action, or phenomenon or state of mind

Digitized by Google

so called, and at the same time a secretion of the material brain, mind and brain are convertible terms. There is, consequently, nothing spiritual about our natures; all that we are is comprehended in the visible tangible mortal corporeal shape which we cognize by our senses. Thus are we freed from the consideration of more than one set of phenomena and laws—namely those relating to *matter*.

Another school of philosophers, taking the directly opposite road, endeavor to do away with matter. There is no such thing as matter, say they—or at least we cannot be assured of its existence—it is a mere supposition, a mere theory—idea is all that we can know—the mind perceives an object—but that object is not a material substance, such as a tree, a house, a chair. It is but the idea of a tree, a house, a chair, Now, as before said, we cannot know the essence of anything—this is beyond our power; we cognize through our senses, the *attributes* and the attributes alone. Postulating attributes, we must have some object to which to attach these attributes. To these objects in the external world, we give the general name of *matter*. No, says the idealist, that is a most gratuitous assumption; it is not matter, it is but the *idea* of matter. There is no external material universe—all that exists is the *microcosm of the mind*.

Between these extremes of Materialism and Idealism, there is a middle course which promises to lead us nearer the truth. We *must* admit the existence of both mind and matter—and the existence of mind as a *spiritual principle*, wholly distinct from matter, having its own peculiar phenomena and its own peculiar laws.

The connexion between the mind and the brain, which as we have seen, have by some, been viewed in the relation of identity, is an important and most interesting question. We know that there must exist some close and intimate dependence between them—as we observe the action of the former to be so often influenced by changed conditions of the latter. Opium and alcohol in moderate quantities, as soon as they produce a stimulant action upon the *brain*, cause a corresponding elevation of the mental powers, the intellect is clearer, the thoughts are more rapid and glowing, the moral nature is toned to a higher and nobler pitch, and the feeling of quiet happiness and serene bliss occupy the soul. Let the dose be increased until there is an actual congestion of the cerebral vessels, and immediately the actions of the mind are irregular, and its powers weakened, or entirely suspended. Mental languor and hebetude take the place of the previous condition of brilliant exaltation. The same is the case with many other agents which act upon the

Digitized by Google

circulation in the brain—mental activity seeming in a wonderful degree to go apace with the rapidity of the flow of blood within the cranium. The weight and development of the brain of those persons who had been distinguished for intellectual strength and vigor, have also been found to excel greatly those which belonged to persons of low orders of intellect, or to idiots. These and other facts of the same kind, which I need not mention here, point out a close connexion between the material brain and the immaterial mind. What is that relationship?

May it not be stated to be that of *power* and *instrument?* the mind being the spiritual power, which acts or displays itself or its workings, by means of the corporeal instrument. Let us suppose an artist—denominate that as power—let us suppose the brush which is in his hand—denominate that as instrument. We have here, power, perfectly distinct from and independent of the instrument. The artist's genius is as great, whether he be provided with his brush or not. His conception may be as grand and as beautiful, whether that brush be in his hand or not. But how is it with respect to the *realization* of those mighty conceptions? Without the *instrument*, he is perfectly powerless—or if that instrument be damaged or in any way deranged, to that same extent is the delineation defective; or, on the other hand, if that instrument be in such a condition of perfection, that it may be used to the best advantage and with the utmost expedition, then may the work be accomplished in the most excellent and speedy manner.

This, I think, may be considered to present a tolerably perfect analogy to the dependence between mind and matter. The instrument, in order that the manifestation of mind may be complete and accurate, must be in a healthy normal condition—its organization must be good, and its supply of blood neither more nor less than it should be; otherwise the manifestations will be irregular. In short, a healthy brain is the necessary condition of normal mental phenomena. The mind acts through the brain, just as the artist works out his design by means of the brush. The mind, then, is no more identical with the brain, than the artist is identical with the brush, which is indispensable to the accomplishment of his task.

Now, although insisting upon the distinct and separate *existence* of mind and matter, let it not be understood that I mean to imply that in their *actions* they are separate and distinct—independent the one of the other. On the contrary, it is the very object and purpose of this paper to endeavor to show the intimate relation which subsists between the mind and the bodily organization. We are all acquainted with the well

Digitized by Google

attested facts of physiology with regard to the changes which take place in the nervous matter of the brain whenever the mind exercises itself in thought, and the excretion of the metamorphosed tissue by the kidneys; facts, which called forth the absurd, though characteristic, materialist sentiment, "Without phosphorus, no thought." We all know what a close connexion obtains between the proper nutrition of the body, and the sound and orderly working of the mind. The organization must be free from pain, and in full health, in order that the mind may develope its mighty plans. How diseases benumb its activity and cloud its brightness; how dependent are our very thoughts, desires and actions, upon the conditions of the material element; how necessary is pure blood and fresh air to the earnest thinker, as well as to the hardy artisan. Still, thought is not the product of organization. "Our investigations of bare matter and all we can learn of the laws which govern it, instruct us to look beyond chemistry and mechanism, for the origin, not merely of mind but even of life. Neither of these principles can result from mixtures of matter. Mind can only be compared to the Creative power of which life and material combinations are consequences, not causes. Mind is but the action of our own souls, the manifestation of a spirit within the body." The body may be considered as the habitation of the soul, constructed to subserve the purposes of that which thinks and feels within it. And when we reflect that this body is furnished to the indwelling soul, that it might, by means of this body, come into communication with the world external to itself, that is, through it receive impressions from the outer world, and also carry into effect its own volitions, we cannot be surprised at the action and re-action which are constantly taking place between these constituent elements of our natures.

I will endeavor to bring together, some of the more important and evident of the various modes by which the conditions of mind may affect the bodily organism.

Let me, however, say a few words with regard to the nervous system. The nervous system appears to me, to stand as the bond of union, at least to our finite conceptions, between the two great and distinct natures of which we are composed—namely the material and the immaterial—the mental and the physical. We find it acting as the medium of communication between them, just as the telegraph wire is the means by which we transmit dispatches from one city to another. A certain condition is, by the electrical apparatus, impressed upon this end of the wire, which is immediately propagated to the other extremity; this pro-

Digitized by Google

duces, through suitable contrivances, certain characters on paper, which are deciphered and interpreted by the operator. Now we may suppose the intimate network of nerves as so many distinct telegraphic wires, concentring in the brain, the great capital city of thought, volition and action, messages being received, and orders issued, by the unseen operator—*the mind.*

The nervous system binds together the two poles of our being, and is subservient and indispensable to both. It pervades nearly every fibre of our bodies, and the nervous force which acts through and by means of it, is distributed along with it, over every part of our nature. There is no thought, no emotion, no volition, no action either organic or animal, without an expenditure more or less, of nerve force. If, therefore, there be a given amount only, of this nervous force in the system, it is evident that if an inordinate quantity is used up in one portion of the system, there must remain but a diminished supply for the other portions. For instance, if an unusual amount be expended in animal exertion, there is an insufficient quantity left for the processes of intellection, for gland-cell action, etc., etc.

Let us apply this principle and see if it will bear us out. One of the commonest instances in which we observe this action of mental conditions upon the bodily organism, is the effect of grief. A female, for example, is in the enjoyment of perfect health—all the organs of the body performing their several functions in a proper and regular manner. But suddenly this harmony is disturbed by sad and unlooked-for tidings from absent relatives. That quiet of mind is harshly broken in upon—and a noisy grief or a quiet despondency takes its place. This is the immediate mental result. But what follows? The body suffers with the mind—and the mind acting upon the body, we see anorexia and dyspepsia, where before was a healthy, hearty appetite, and a good strong digestion. How shall we account for this? The abnormal quantity of nervous force which is expended in this condition of mental excitement, reduces the quantity allowed to the other departments of the system. Hence the stomach suffers—gastric juice is not elicited, in consequence of the deficient nervous energy of the organ—appetite fails and digestion is impeded and difficult. Muscular power also languishes, and for the same reason, to the extent of the mental derangement.

Of the same character are those cases in which a sudden alteration of the blood, or of some one of the secretions formed from the blood, takes place in consequence of a fit of anger. We have read somewhere, of anger producing apoplexy and death—we have heard of a woman whose

Digitized by Google

milk was so altered by the same cause, as to be absolutely unfit for the nourishment of her child. We are all acquainted with the case of the person who on being thrown into a violent passion by an indignity offered to him, was immediately seized with a severe attack of jaundice. Fear, too, in epidemics for instance, predisposes to disease, and in disease, greatly diminishes the power of the system to recover from the effects. And why? Because nervous power being necessary for the performance of every organic and vital function, if an adequate supply is not furnished, in consequence of the mental emotions calling for so much, these processes are not properly performed, or not performed at all, and disturbance follows as a matter of course.

Besides this deranged condition of functional activity, in consequence of excessive emotion, we also observe *a loss of the co-ordinating power of the will.* The will itself is weakened or sometimes even rendered absolutely torpid, by reason of the diminished nervous supply. In illustration I would adduce those religious excitements, which are often brought about by large crowds, stirring and terrifying preaching, and powerful emotional susceptibility of the hearers. In some of these cases of which we have reliable information, there seems to be a miraculous influence exerted—first evincing its presence and potency in one and then in another, until, like leaven, it has permeated the whole mass. This excitement is of the most violent and unaccountable character. There seems to be an utter want of all power of will and of intellection; the emotional has usurped the domain of every other faculty. Even special sensation is for the most part suspended. And the gesticulations, and writhings, and shaking-quaker movements appear to be the result alone of reflex nervous action. The co-ordinating power of the will does not operate in the production of these motions. Such cases, which are by no means infrequent, are by philosophical writers, attributed to sympathetic imitation, and doubtless much is due to the principle of imitation, in accounting for the rapid spread of the affection over such numbers. Still, it must be remembered that all were subjected to the same influences, and if those influences produced such results in one person why may they not be expected to produce them in others? And, besides, we have yet remaining the question to be answered, *how* or why did these phenomena occur in the *first* one—on what principle shall we explain them? As before, I suggest that the solution may be found in the fact of nervous force being monopolized, so to speak, by the emotional element, that volition and the co-ordinating power are in a great degree held in abeyance, while the emotions,

Digitized by Google

together with reflex action are allowed to run riot. In the same category, we may place all such cases as that, often quoted, of a ward-full of female patients, attacked one after another, with epileptic convulsions, in consequence of having seen one of their number affected in that manner—and the contagion is said not to have ceased until the physician in attendance ordered a red-hot iron to be applied to the back of the next one seized. The suggestion of this active agent was quite sufficient to rouse the will to its proper duties, and there was no call for the application.

Once more I would beg to call attention to the influence of different conditions of the mind upon the sensitive nerves. The soldier upon the battle field, wrought up to the very pitch of excitement, surrounded by the distracting din of musketry and artillery, mingled with shouts and groans, and the bugle sounding the charge, is often wholly unconscious of the inflicted wound, which, under other circumstances, would have been most exquisitely painful; and not, perhaps, until he sees the red blood flowing forth, or until a later moment of more quiet, does he become acquainted with the fact that he is wounded at all. The mind has been so wrapped up in the pursuit of victory and the noble sentiments of patriotism, that it has had no time and no power to *feel* the comparatively trifling sensation of pain caused by the bullet. But when the excitement has passed the pain becomes perceptible to the mind. On the other hand, we often see instances of persons who, by directing their undivided attention to one particular limb or one particular spot of the body, do actually create a pain in that part, or if there was some existing there, they intensify it tenfold. By this mental effort they are driving nervous force to that quarter, and sensation is rendered so much the more acute.

The student busy with his intellectual toils, or the poet engaged in his lofty and airy flights of imagination, may be entirely unconscious of that condition of the nerves which gives rise to the sensation which we denominate hunger: the meal time may pass by unnoticed, because the mind is too much preoccupied by its more important duties, to perceive these sensations. But with the idler how different it is—with him the first intimation of hunger is intensified by that undivided attention which the mind gives to the conditions and sensations of the nerves of the stomach.

It may be interesting and instructive to notice here, as instances of the action of the mind upon the body, *blushing* and *the expressions of the countenance*, which are the results of certain fixed mental states or

Digitized by Google

conditions, and which take place without the intervention of the will or even of the consciousness of the subject. However we may explain it, we all recognize our ability, more or less, to read in the face of a friend, for instance, the inner workings of his secret soul, and to decide whether hope, fear, anger, pity or revenge has possession of his breast. Thus we have, impressed upon the very features, and capable of being studied and understood by another, a *photographic representation* of the mind's posture at a given moment of time.

I quote the following passage from the writings of Dugald Stewart, as being particularly apposite:

"As every emotion of the mind produces a sensible effect upon the bodily appearance, so, upon the other hand, when we assume any strongly expressive look, and accompany it with appropriate gestures, some degree of the correspondent emotion is apt to arise within us. Mr. Burke informs us, that he has often been conscious of the passion of anger rising in his breast, in consequence of his counterfeiting its external signs; and I have little doubt that, with most individuals, the result of a similar experiment will be the same. Campanella, too, the celebrated philosopher and physiognomist, (as Mr. Burke farther observes,) when he wished to form a judgment of what was passing in the mind of another, is said to have mimicked, as accurately as possible, his appearance at the moment, and then to have directed his attention to the state of his own feelings."

These instances, however inexplicable they may be, discover to us, in a remarkable manner, the wonderful relationship between mind and body.

Thus I have endeavored in a plain way to demonstrate, and in some measure to explain, the fact that mental perturbations affect—

1st, The condition of the blood and secretions;

2d, The organic functions;

3d, The co-ordinating power of the will; and

4th, The sensitive nerves.

And that this may be due to the diminished nervous force supplied to the part affected, in consequence of a larger demand than usual having been made by some other department of the system.

If this be true, it follows that in diseases where we find an excess of nervous power existing in any part, to the detriment of another part whose supply is consequently deficient, our first care should be, as much as possible, to equalize its distribution. And it seems to me, an eligible mode of accomplishing this, may be to act through the mind upon the

Digitized by Google

organization. In a well known work on materia medica, remedies are spoken of as being divided into two classes, viz: psychical or mental, and somatic or corporal. But how little attention is given to the first of these classes in general practice. May not many diseases be greatly ameliorated if we call to our aid the mental powers of the patient? Many of those ailments, which have their origin rather in the imagination than in any recognizable pathological condition, may be entirely removed if we should engage the mind in healthful intellectual occupation, drawing it out of itself, and giving it a more enlarged sphere, and a higher and nobler subject of contemplation. Indeed the great majority of our nervous diseases will be decidedly benefitted by any kind of business that will divert the nervous force from the affected spot. I have often seen an asthmatic attack delayed or wholly prevented by gay company or cheerful conversation or amusement in any way, thus diverting the nervous force to the brain and relieving the excess existing in the lungs.

Finally, fear, anxiety, and above all, religious excitement and distress, wear hardly upon the sick. The suffering mind reacts powerfully upon the languishing body. And it is the physician's duty to endeavor to medicate that "mind diseased." The duty is a difficult and a delicate one, and no physician, with the proper feelings with regard to his responsibilities in the case, will refuse to summon to his aid the clergyman of the patient, in whom, if he be a prudent, sensible and practical person, he may find a true and faithful ally. I know of cases of this character which resisted the physician's treatment until the patient's mind was calmed by the assurances of religion. Every one is aware of the value of calmness, tranquil resignation, a bright hopefulness and an unconquerable faith. It is to us a sacred obligation, if possible, to secure these for every patient intrusted to our charge.

ART. III.—*Cases illustrating the Hæmostatic power of the Per-sulphate of Iron in Hæmorrhage from large Arteries:* By S. EAGAN, M. D, Marshall, Texas.

1.—Mrs. W., æt. 28, the mother of three children, the subject of epilepsy, which for several months prior to this date had recurred at the catamenial periods, on the 24th of January, 1867, had a return of epileptic paroxysm during the night whilst sleeping on the floor near the fire

Digitized by Google

(their furniture having been packed up with a view of starting on a journey of removal from Rusk, Texas, to Arkansas), in which, by her convulsive movements, her lower extremities were thrust into the fire and horribly burnt. She suffered, however, but trifling pain, and on the following morning the burnt parts presenting to their unmedical inspection nothing of grave import, it was determined to proceed on the prepared journey. It was not even thought necessary to invoke medical advice in the case, seemingly was it so trivial, and domestic treatment alone was relied upon. After a day or so, however, her suffering became great, and the burnt structures gave indications of serious mischief.

No medical advice was procured until February 2d, when I was called in consultation with Dr. B. F. Eads of this place, the "moving" party having reached the vicinity of this place and camped.

On examination, it was found that the soft structures of the left foot and ankle-joint, together with the integument of the leg to near its middle, were completely disorganized and disintegrating, the bones of the foot denuded of periosteum, and dead; altogether presenting a most offensive gangrenous mass. The right lower limb had not suffered to the same extent, the parts here involved were, the soft structures of the last phalanges of the three greater toes, with their bones, and the integument of the others, together with that of the dorsum of the foot up nearly as high as the line of the anterior anular ligament of the ankle-joint. The living tissues to which these dead masses were adherent, were in a state of high inflammatory irritation. The constitutional state of the patient was one of much prostration, incident to the severe shock, protracted suffering, and exhaustive discharge.

Assisted by Dr. Eads, I amputated the left leg near its middle by the circular method, the patient being under chloroform, which had been preceded fifteen minutes by the administration of an ounce of brandy. Coats of arteries found thickened and fragile, other tissues apparently healthy. Last phalanges of three greater toes removed by Dr. Eads; stumps dressed in ordinary manner, after hæmorrhage from small vessels had ceased, cold-water dressing to stumps. Patient was placed in bed one hour from commencement of operation, recovering from chloroform, with pulse the same as before operation, 120. Morphia sulphas, grs. i, to repeated *pro re nata*; tinct. ferri chloridi f3; s. s. quinia sulph. grs. iij, every four or six hours, nutritious food.

3d. Patient spent a very good night, pulse 120; no appetite, though has been induced to take a moderate amount of nourishment; bowels

Digitized by Google

not moved; stump of leg nothing worthy of record. Treatment continued with the addition of brandy before meals and at other times, *ad libitum.*

4th. Appetite something better, otherwise condition unchanged. Treatment continued.

5th. Spent bad night, stump opened, stitches have cut through, allowing the wound, which presents a foul, unhealthy appearance, to gape; thoroughly cleansed with chlorinated soda solution and brought together with adhesive strips; cold-water dressing, and constitutional treatment, continued with ol. ricini, f. ℥i; ol. terebinth, f. 3i, to relieve the bowels which had not acted up to this time.

6th. Very little change in state of general system or of that of the wounds, bowels have responded twice to purgative. Treatment continued.

7th. Patient apparently somewhat improved, both as to local and general condition. Slight evidences of suppuration of an unhealthy character. Continue treatment.

8th. But little change, small amount of suppuration of an unhealthy character. Same treatment continued, and so the case progressed with very little change, up to February 10th, the stump presenting an indolent and rather foul appearance, with considerable debility of the general system. Pulse, from 115 to 125.

11th. Secondry hæmorrhage had occurred during the night, to the extent of eight or ten ounces, but had ceased on our visit, a firm clot having formed around the mouths of the bleeding vessels; patient a good deal exhausted, from loss of blood, pulse 130 to 140. The hæmorrhage having entirely ceased, and no firm clots having formed, it was deemed advisable not to interfere with them by removing dressings, unless hæmorrhage should recur. Tourniquet applied over popliteal artery loosely, with injunction to attendants to watch the stump diligently, and if necessary, on account of hæmorrhage recurring, to tighten the instrument and inform us without delay, of the trouble. Treatment otherwise continued.

12th. Dressings and bed-clothing drenched in blood, and patient almost exsanguinous from hæmorrhage during the night. Pulse, 140; patient restless and irritable. Tourniquet tightened on the popliteal artery; patient chloroformed, dressings removed, and clots attempted to be washed away, in doing which all the ligatures were torn away, leaving the end of the posterior tibial artery patulous and bleeding. An attempt was now made to ligate effectually this artery at its divided

Digitized by Google

extremity, but, its coats were so soft and fragile as to allow the ligature to cut through, even at the highest point at which it could be reached. This procedure failing, it was determined that, in view of the very great prostration of the subject, and the consequent risk she would incur in the longer continued administration of chloroform, together with the shock and hæmorrhage necessarily attendant upon an effort to secure the artery in the thigh, to try, first, the hæmostatic power of the persulphate of iron applied to the extremity of the bleeding vessel by means of a compress, assisted by the tourniquet to the popliteal artery.

Having thoroughly washed out the stump, freeing it effectually from all extraneous matter, the application was begun by saturating a pledget of lint as large as a hickory nut, with a strong solution of the salt, and placing upon that side of the pledget which was designed to come into contact with the open mouth of the posterior tibial artery, a pinch of the dry salt, it was carried to its place, and covered by firm layers of the same material, treated in the same way, and extending for an inch or more in thickness over the entire subcutaneous portion of the stump. The integument was now brought over the compress thus formed, and well secured by means of adhesive strips—patient recovering from effects of chloroform, pulse 150. The constitutional treatment of this case, up to the present date, as stated above, had consisted in the liberal employment of quinine, iron, brandy and supporting nourishment, with opium to relieve pain and quiet irritation, and the indications now for their continuance, with a still more liberal hand, were too well pronounced to be misunderstood. Tourniquet relaxed to a moderate degree of force in an hour after dressings were applied. Limb elevated, and cold-water dressing kept assiduously applied.

13th. Very much prostrated; pulse from 140 to 150; bowels irritative, with considerable meteorism; slight delirium at times; tongue dry and red; no recurrence of hæmorrhage. Treatment continued with the addition of ol. terebinth, gtt. xx every six hours, and a more liberal use of opium. Tourniquet relaxed and left on the limb, to be tightened, if necessary, the patient complaining of its pressure.

14th. Improved; diarrhœa relieved, and all the symptoms indicate improvement. Dressings removed; compress found firmly adherent; suppuration about the lips of the wound. Treatment continued; tourniquet left loose around the limb.

15th. Rapid improvement; pulse 110; tongue clean and moist; appetite good; comfortable. Dressings removed, compress detached by suppuration, and is removed, leaving a beautiful granulating surface ex-

Digitized by Google

tending over the entire stump, covered by laudable pus. Lighter compress, the portion to come in contact with wound moistened with sol. ferri per-sulphas, substituted, and secured as before. Treatment continued.

16th. Patient continues to improve. Dressings removed; suppuration free and healthy; beautiful granulations springing from surface of wound, including the medullary cavities of bones, osseous tissue clean and healthy. Compress removed, and constitutional treatment continued.

17th. Improvement continues, both as regards the local and general condition. Compress omitted, and integument brought over stump and secured by adhesive strips.

18th. Gaining more rapidly. Pulse 90; good appetite and digestion, clean, moist tongue; strength and flesh rapidly increasing; wound united for one-fourth its extent.

19th. Improves; stump nearly healed, sits up.

21st. Wound united its whole extent; adhesive strips and bandages, with cold-water dressing and constitutional treatment continued.

Wound upon right foot has been improving rapidly for the last week, and is almost well. The exuberant granulations upon this ulcer have been kept in check, and fetor corrected by means of the persulphate of iron sprinkled freely upon its surface daily; it has served an admirable purpose as a detergent and gentle stimulant to this indolent ulcer.

This case progressed uninterruptedly to complete recovery, the patient being discharged, and resuming her journey to Arkansas, in a wagon, on the 2d of March, twenty-eight days from the date of amputation, and eighteen from the date of secondary hæmorrhage. It is proper to add, that the applicatiou of the persulphate exerted no injurious influence upon the osseous tissue, with which it necessarily came into direct contact, the extremity of the bones presenting, when last examined, an entirely healthy appearance. Another matter of interest connected with the case is, the influence exerted upon the pre-existing malady, epilepsy, since amputation has been advised and even resorted to, by very high modern authority, for the cure of this disease. We had entertained some hope, indeed, that the lamentable misfortune our patient had suffered, might, in some degree, be compensated for by the incidental cure of her epilepsy; but in this we were entirely disappointed, a paroxysm of the disease occurring along with the catamenial period, on the 25th of February.

Case 2. Major S. received a wound upon the left hand inflicted with

Digitized by Google

the corner of a dull hatchet, which entering the dorsum between the metacarpal bone of the thumb and that of the index finger, and driven by his right hand, penetrated in the direction of the middle of the palm, to a point near the middle of the palmar arch of the radial artery (deep palmar arch). The wound being neglected, the subject continuing to use the limb in the pursuit of ordinary business, a high state of inflammatory excitement was set up, followed by ulceration and sloughing, and on the 10th day, by hæmorrhage. Forty or fifty ounces of blood were lost by hæmorrhage. An attempt was made to secure the artery in the wound, local anæsthesia being employed to prevent pain, but it was found too much disorganized to bear the ligature. The wound having now been thoroughly cleared, a compress of sponge saturated with a strong solution of the persulphate of iron was firmly applied and secured by means of adhesive strips and bandage. Hæmorrhage promptly and completely arrested. This application was made November 2d, 1866, and on the 8th of same month, the compress, now hardened almost to the density of ivory, was removed by healthy suppuration, the wound presenting the characters of a perfectly healthy ulcer, which rapidly healed.

In the February Number of the Richmond Journal of Medicine, a case of secondary hæmorrhage from the axillary artery, due to ulcerative destruction of its coats, is reported by Prof. J. M. Holloway, of Louisville, Ky., in the treatment of which, a compress saturated in strong solution of ferri per-sulphas was successfully resorted to after failure to secure the sloughing artery by ligature.

ART. IV.—*A Case of Elephantiasis Grecorum:* Under Treatment of J. J. CHISHOLM, M. D., Professor of Surgery in the Medical College of the State of South Carolina.

ELEPHANTIASIS Grecorum is not a disease of general distribution, nor is it a disease belonging to any special latitude. We know that it exists in the extreme northern portions of Europe, and that in Iceland and Norway it is still found necessary to have asylums for isolating the many cases of leprosy. Again, in the nearly tropical climates of Spain and Greece, the disease is more or less common. Whilst in Central Europe it is rarely met with, and cases of this curious affection are not often brought under the observation of the hospital surgeons in London

Digitized by Google

or Paris. In India, certain varieties of elephantiasis belong to the diseases of the country, and among some of the American Gulf islands, it is common enough to take the name of the locality, "Barbadoes Leg." In the southern parts of the United States it is no stranger, and in Charleston, S. C., some cases of every variety of this curious and interesting disease can be found at all times.

Having recently noticed in the Southern Journal of the Medical Sciences, for August 1867, a case of rare disease of bone under treatment in Charity Hospital, which was attributed to constitutional syphilis, but which corresponds to the symptoms of elephantiasis anæstheticum, one of the varieties of elephas Grecorum; and also having read with much interest, in the American Journal of Medical Sciences, for July, 1867, the case of successful ligature of both carotids for the deformity induced by elephantiasis Grecorum, when the drawings, history, symptoms, and termination of the case, established clearly the diagnosis of elephantiasis Arabum, a distinct disease from the elephas Grecorum, I have been induced to report a case of elephantiasis Grecorum anæstheticum, one of three which I now have under observation, and which will exhibit many points of special interest.

I have already said that all of the varieties of elephas can be found in Charleston. They are confined to no special color nor cast of population. The Barbadoes leg is observed chiefly among the blacks, not often among the mulattoes or whites, yet at least two families are now living in this city, one a white and the other a mulatto, in which two individuals from each represent well advanced cases of elephantiasis Arabum. Probably as many as twenty, or even thirty cases of the Barbadoes leg could now be collected out of a population of forty thousand. The Greek variety of elephas is more rarely met with, very seldom among negroes, not very often in mulattoes, and more frequently among the white population, the cases appear equally divided between the rich and the poor, neither privations nor luxurious living apparently affecting its development. Its victims are much more frequently males, and especially those between ten and thirty years of age. The most common form of the Greek variety is the elephantiasis tuberculosa, commencing with yellow discolorations of the skin, more or less extensive, which after many months becomes thickened and infiltrated with an albuminoid serum, and upon which shining tubercles are developed as the disease progresses. The other variety, a case of which I herewith report, elephantiasis Grecorum anæstheticum, may run a course for years with very marked symptoms, and yet without the skin becoming

Digitized by Google

diseased or discolored. These diseases can be traced to no hereditary cause.

In the treatment of these affections, internal remedies have been found altogether ineffectual. The disease recognized as the "Barbadoes Leg," the pathology of which has been satisfactorily established as a hypertrophy of cutaneous and connective tissue, has been successfully treated in Charleston, by the ligation of the femoral artery. For the Greek variety we have found no specific. The disease always runs its slow and steady course to its final and fatal issue, apparently uninfluenced by remedies.

J. A. Rose (white), a native of Charleston, S. C., aged forty-four, a carpenter by trade, of apparently good constitution, and from healthy parents. His mother died in advanced age from phthisis, and the father died of an acute disease at sixty years of age. No case of phthisis had occurred since that period in his family. He married at twenty-two years of age in 1844, and has had three children. The first was an unusually large child at birth, and continued to develop rapidly. At sixteen years of age, when he entered the Confederate army, he weighed 235 pounds. The second, a healthy child at birth, died suddenly when three days old. The third was born sickly, lived eighteen days, and an autopsy revealed disease of the heart.

When twenty-six years of age, in May, 1848, he strained himself in lifting a heavy piece of lumber, and from that time, and to that accident he attributes the commencement of his disease. Soon after receiving the injury, a gradual and painless contraction of the fingers and toes took place, accompanied by an equally gradual loss of sensation, which progressed to a permanent and a more or less complete anæsthesia. No inflammatory symptoms existed with these contractions. In two months the toes and fingers were so drawn that he was forced to give up, temporarily, his trade. The contracted toes did not materially interfere with locomotion, but the contracted fingers prevented him from using his tools. A slight improvement in his symptoms enabled him to resume work, four months after the accident; relaxation of the members was never, however, complete. About this period a large blister formed spontaneously over the left meta-carpo-phalangeal joint of the big toe. The bursting of the bleb and the accidental removal of the detached skin, established an ulcer, which after repeatedly healing and reopening, has for the last eight years remained a permanent sore.

In 1861, three years from the commencement of the disease, a small

Digitized by Google

dark spot, like a blood blister or a bruised surface, made its appearance at the extremity of the left index finger, unaccompanied by pain or swelling. In time the tissue broke down into a small ulcer, through which the head of the phalangeal bone protruded, and was eventually exfoliated. In 1853 the extremity of the fourth finger took on the same action. The bone remained protruding for nearly six months, without pain or swelling, when it was removed by a surgeon. The end of each third phalangeal bone in turn protruded through a similar painless chronic ulcer, and was in time discharged, a healthy cicatrix rapidly forming in each instance. Unless these necrosed bones were cut out before nature had isolated them, the exfoliation would be accompanied by neither redness, pain nor swelling. A profuse ichorous discharge was the only accompanying phenomenon. Progressively each finger and toe lost its third phalangeal bone, then the second, and, in most instances, the first. Only two of these bones now remain in the hand all of the foot having been thrown off. In the feet, necrosis of the heads of the metatarsal bones is now going on, with the continued escape of fragments. The exfoliations from the fingers he characterizes as altogether different from whitlows, a disease from which he had suffered in early life.

Four years since a red spot appeared upon the lower edge of the left cornea, and gradually developed itself into a fleshy, vascular, thick mass, which slowly extended upwards, involving, finally, the entire thickness and extent of the cornea. This change in the corneal parenchymatous tissue slowly crept over the pupil, and at the end of three years had completely shut out light from the left eye. In its origin and progress it had caused no pain. The surface of the eye was only slightly injected, with increased lachrymal secretion. One year since a similar spot appeared upon the lower border of the right cornea, at its junction with the sclerotic, and has also gradually encroached upwards, rendering the corneal tissue in its progress thick, vascular and opaque.

His condition at present (May, 1867, nineteen years from the commencement of his disease) is as follows: His general health is good; he eats, digests and sleeps well. Weight 146 lbs.; height 5 feet 8 inches. His spirits were good, until the progressive disease of the eye threatened to leave him in darkness. The skin of his face, body and limbs is apparently very healthy, perfectly soft, without thickening or discoloration. In warm weather he perspires excessively.

Anæsthesia, more or less complete, exists over all portions of the body, and has been a prominent symptom from the commencement of the dis-

Digitized by Google

ease. When struck with a sharp instrument upon the face, trunk or extremities, he is only conscious of pressure. The only portions of the body where the striking is felt as a stick, is over the upper part of the spine and the back of the head; and more particularly over the skin of the chest, from under the armpits to the waist.

The elimination of the various phalangeal bones was unaccompanied by pain or any symptom of swelling, provided nature was not interfered with. When these dead protruding bones were cut away, the operation was painless, but was followed by some swelling and a sense of soreness in the finger. The pain which accompanied these operations would only be felt in the armpit, where it would exist as an isolated symptom. He now has, at irregular periods, a severe pain in the soles of the feet, which he likens to the boring with a sharp awl, yet at the same time he has so little sensibility in them, that they can be severely struck without pain. In washing his feet his wife usually tests the temperature of the water. Some years since, during her absence, he undertook to do his own testing, and was only aware that he had used boiling water to his feet when he saw most of the skin of his extremities come away in the towel. In spite of this excessive anæsthesia, should he accidentally tread upon a pebble a very severe pain darts up the limb. It disappears immediately with the removal of the cause.

His hands and arms are equally insensible to pain. On one occasion he thoughtlessly leaned against a hot cylinder of an engine and baked his arm, painlessly. His attention was not called to the accident until the next day; an extensive cicatrix marks the seat of this injury.

Notwithstanding the loss of sensibility, his flesh heals very rapidly when cut or bruised; and in spite of the many ulcers which from time to time have given exit to the necrosed bones, the skin is soft and healthy upon the soft boneless fingers, which, with healthy well formed nails appended, are drawn up against the palms. The extremities of his feet are in an ulcerated condition, and are discharging an offensive ichor.

With loss of sensibility there has been no loss of muscular force. At no time has there been any indication of muscular paralysis. His limbs are large, well developed and firm, and he would still be able to walk well had not the disease removed so large a portion of the feet as to make locomotion fatiguing.

His mucous surfaces are not affected, sensation in them is natural. He controls perfectly urination and defecation, and complains of the usual colics, and griping pains from indigestible food or drastic medi-

Digitized by Google

cines. His taste is good and hearing perfect. His sense of smell has only become impaired within the past twelve months, from which time he has been discharging large, thick, brown scabs from the nose every fourth or fifth day. There is no excessive or offensive discharge from the nares. He can still detect odors.

His sight is nearly gone, the eyes presenting a curious appearance. The left cornea is replaced by a thick, fleshy red disc, apparently of fibrous structure, with abrupt perpendicular margins at the sclerotico-corneal junction. At this circular line the diseased cornea is suddenly elevated three-eighths of an inch into a thick flat disc, covered by a comparatively healthy and not much thickened conjunctiva. In this transparent mucous tissue a few large vessels run to the slightly depressed centre of the disc, and then disappear in its substance. The ocular conjunctiva is only slightly injected, otherwise healthy. The sclerotic and other tissues of the eye are apparently in a healthy state. No pain or symptom of inflammation accompanied this change in corneal tissue. Since the sight has been shut in, the eye has had a sore feeling, and exposure to strong light is uncomfortable; the lachrymal secretion is in excess.

In the right eye the progress of this corneal tissue change can be readily traced. The lower half of the cornea has already undergone the conversion into thick, opaque, slightly pinkish, fibro-cellular tissue; the margin of the sclerotic junction, the portion first changed, is abruptly elevated one-fifth of an inch. This thickened portion is continuous for the extent of two lines; and the opaque fleshy cornea is then gradually beveled off towards the neighborhood of the pupil. It then fades out into a cloudy condition, not yet thickened nor opaque, which cloudiness, strictly interstitial and parenchymatous, precedes the more complete conversion into thickened, fleshy, fibro-cellular, opaque, not very vascular tissue. The upper third of the cornea is perfectly healthy and transparent, the middle third is cloudy above and opaque below, and the lower third is much thickened, conspicuously and abruptly elevated, and completely opaque. When the eye is directed downwards, the anterior chamber appears of normal dimensions, and not encroached upon by the thickening cornea, the increase in which appears to be altogether external. The iris is healthy, as are all the other tissues of the eye, sclerotic, conjunctiva, choroid and retina. The pupil acts freely; under atropine, which allows the opening to correspond with the upper clear third of the cornea, he sees well. There is a very slight blush in the conjunctiva and increased lachrymation also in this eye.

Digitized by Google

This patient's habits have always been good. He married early in life and became settled. His wife is alive and very healthy. His children have had no evidences of constitutional disease. His wife has had no miscarriages. He is positive in the assertion that he had neither syphilis nor gonorrhœa; has no evidences of chancrous cicatrices; and has never had an eruption upon the skin. He has been under treatment from the commencement of the disease, dating from the strain. He has been repeatedly salivated, and kept for months under the influence of mercury. He has also, under the very long course of medical treatment, taken pounds of iodide of potassium, gallons of cod-liver oil, and ounces of Donovan's arsenical solution. He has exhausted the list of alteratives without benefit, as the disease is evidently slowly, steadily progressive.

Notwithstanding the great interest with which any case of elephantasis Grecorum anæstheticum is invested, in the case above reported are observed many special points of interest. The insidious approach of the disease without the usual prodrome. The long time which it has taken to run its course, the termination being apparently many years yet in the future; the anæsthesia for pain and not for pressure; the full muscular development, with no tendency to paralysis; no anasarca nor other effusion; a healthy skin, in color and consistence, healing rapidly when cut or bruised; the duality of the disease, always showing itself first in the left side of the body, the corresponding parts of the right side in time becoming affected at irregular intervals, viz: in the eye as long as three years; the entire absence of sympathy in the mucous surfaces and the healthy functioning of all visceral organs; digestion perfect, brain active, without torpor or heaviness, no diminution of virile powers, etc., are some of the peculiar phenomena which will attract attention.

ART. V.—*Case of Abscess of the Œsophagus, produced by Lodgment of a Fish Bone:* BY ALFRED W. PERRY, Demonstrator of Anatomy, New Orleans School of Medicine.

CATHERINE K., aged 40 years, entered the Charity Hospital, Ward 35, complaining of an obstruction in her throat, rendering it impossible for her to swallow anything but liquids. She gave the following history: On the 7th of July, while eating some fish, she swallowed a

Digitized by Google

bone, which, as she felt, lodged in the throat, on a level with the upper part of the larynx. She afterwards tried to swallow some hard crusts of bread, with a view of pushing the obstruction down, The bread remained a little while and was rejected. For two days afterwards she could swallow liquids. As she referred the place of lodgment high up in the throat, I introduced my finger as far as possible but felt no obstruction. The lower part of the neck was red, the lower portion of the left sternomastoid muscle was bulged out, and pressure behind it and on it gave much pain—the least movement of the neck or head was painful. I was somewhat disposed to doubt the lodgment of the bone, as she had not felt it in her mouth, and only thought she had swallowed it; to make certain, I promised to get an instrument and return in the afternoon to introduce it. In the meantime I told her to try and swallow as much mush as she could, wishing to have the student of the ward witness the amount of difficulty in swallowing. Before I saw her again in the evening she had rejected the bone with some of the mush. The bone was a piece of a spinous process of a large buffalo fish, 1¼ inches long ⅛ inch broad, and was broken off sharp at both ends. On the 10th, soreness and tension of the neck increasing, she was not able to swallow anything, and I ordered injections of beef tea and poultice around the neck, as I supposed an abscess was forming in or near the walls of the œsophagus. She said she could feel a lump in her throat. On the night of the 12th she awoke with her mouth full of something bitter, and spit out about two oz. thick, bloody pus; said she thought the lump in the throat broke, as she did not feel it any longer. The next morning she was able to eat a soft boiled egg and swallow some tea. On the 14th she was able to eat bread with some difficulty; still spits bloody pus. On the 15th and 16th discharge of pus stopped, and difficulty of swallowing became again very great; the lump seemed to her to have returned. On the night of the 16th she awoke feeling choked, and spit out about four ounces thick, bloody pus, and immediately after was able to swallow soft food. July 17th, 18th and 19th, all the symptoms became gradually ameliorated, and she left the hospital on the 19th, at her own request, feeling very well, and eating bread with very little trouble, still spitting daily a little pus.

The patient came to the hospital about a week afterwards and reported herself well.

This case presents some points of interest, regarding the manner in which the foreign body was impacted, how it was loosened, and the probable termination of the case. The bone being straight must have

Digitized by Google

lain in a slanting position in the commencement of the œsophagus, with its sharp ends imbedded in the mucous membrane. The irritation of one of the sharp ends, probably the lowest, together with the irritation from the hard bread crumbs, swallowed subsequently, caused inflamma tion of the œsophageal wall and the circumjacent areolar tissue, which resulted in the abscess. The release of the bone was probably due to the soft mush distending the œsophagus. pushing away its parietes from the ends of the bone. The introduction of an œsophagus bougie or probang would probably have buried the sharp bone deeper in the soft parts, and it might even have penetrated important blood vessels in its immediate vicinity. The first opening was probably small and soon closed up, causing the abscess to fill again, the second was larger, and the cavity was probably closed by healing from the bottom. The tendency of the abscess to enlarge is shown by the increased quantity of pus discharged at its second breaking. If the abscess had filled up again, I was determined to make a free opening from the outside, so that it might heal from the bottom, for it might continue indefinitely closing the opening, filling and bursting, all the while enlarging.

From the known tendency of cicatricial tissue to contract, this patient will, after the lapse of some time, perhaps years, become the subject of a more or less completely strictured œsophagus ; the greater the destruction of the æsophagus was, and the surrounding areolar tissue, the greater will be this narrowing, and to prevent this, I should, in any future case, practice an early external opening.

ART. VI.—*Liquor Ferri Persulphatis in the Treatment of Intermittent Fever:* By G. H. LENOIR, M. D., Cahaba, Ala.

FROM witnessing the unpleasant results of sulphate of quinine in the treatment of intermittents, and finding it so objectionable to some patients, I was persuaded to try the liquor ferri persulphatis in several cases in which I found the quinine not only led to unpleasant results, characteristic of the remedy, such as deafness, etc., but failed totally to exercise any curative power over the disease.

The patients to whom I gave the iron had been taking quinine for weeks, and some of them for months.

Immediately after the administration of the iron the chills ceased, and in but *one case* was there a recurrence of the malady, and in that

Digitized by Google

the patient had but *one* chill, after which there was no symptom of a recurrence.

The dose is from gtt. viij to gtt. xv, every four or six hours, generally preceded by a full dose of pillulæ cartharticæ compositæ.

In a few other cases I have given the following:

℞—Liquor ferri persulphatis, f℥i.
Quinia sulphas, ℈j ss.
Aqua distill., f℥j. M.

Fiat sol.

S.—Teaspoonful every four or six hours. This makes a beautiful preparation, if the quinine be first dissolved in the iron, and the water afterwards added. However I have found the *iron alone* to answer *every* purpose.

Dr. H. V. Weeden, of this town, reports that he has used the iron with similar results, realizing the most happy effects from its use.

For the benefit of the general practitioner I will give the formula for this preparation, as taken from "Parish's formula," it not appearing in the U. S. Dispensatory:

℞—Sulphate of iron, ℥i.
Sulphuric acid, M. Liii.
Nitric acid, f℥jss.

Triturate the sulphate of iron, add the sulphuric acid, rub to a paste; then add a few drops of the nitric acid at a time, rubbing well until red fumes cease to be eliminated; lastly, add aqua distilled f. O. 1ss., filter and put in a bottle with good ground glass stopper.

This preparation of iron is also a most powerful styptic in epistaxis, hæmoptysis, hæmatemesis, and *all* minor hæmorrhages.

I am not apprised of the fact, if the liquor ferri persulphatis has ever been used heretofore as an *antiperiodic*, and would be pleased that other members of the profession would give it a fair trial, and make reports of their success through the medium of your most excellent journal.

ART. VII.—*Antagonism of Consumption and Malarial Fevers:* By E. M. PENDLETON, M. D., Sparta, Ga.

IN a former number the writer made some statistical observations in reference to the effects of malarial regions upon consumptives. He now proposes to present a tabular view of the subject, taken from the United

Digitized by Google

States census, as to the relative mortality of phthisis pulmonalis and malarial fevers in the different States, by which we may more fully determine the antagonism existing between the two classes of disease.

Table I.

Embracing the Atlantic States north of the cotton region. In every 10,000 deaths from all causes.

		Consumption.	Malarial Fevers.
1.	Maine	29.5	2.5
2.	New Hampshire	26.6	2.3
3.	Rhode Island	24.4	0.6
4.	Vermont	24.4	1.3
5.	Massachusetts	23.4	1.3
6.	District of Columbia	22.0	1.3
7.	Connecticut	21.7	2.1
8.	New York	18.4	1.4
9.	Delaware	18.0	1.7
10.	Pennsylvania	16.6	2.0
11.	Maryland	17.2	1.9
12.	Virginia	11.3	1.8
	Average	21.5	1.7

Table II.

Atlantic and Gulf States of the Cotton Region.

		Consumption.	Malarial Fevers
1.	Louisiana	7.5	7.1
2.	North Carolina	7.2	4.0
3.	Florida	6.2	9.0
4.	Alabama	5.3	5.3
5.	Texas	5.1	7.3
6.	Mississippi	5.1	8.0
7.	South Carolina	4.5	5.0
8.	Georgia	4.5	4.8
	Average	5.6	6.3

Table III.

Western States in which Consumption predominates.

		Consumption.	Malarial Fevers.
1.	Michigan	17.0	4.4
2.	Minnesota	15.0	4.5
3.	California	15.0	8.7
4.	Kentucky	14.2	4.9
5.	Ohio	14.1	2.7
6.	Wisconsin	13.8	3.5
7.	Indiana	12.8	5.4

Digitized by Google

		Consumption.	Malarial Fevers.
8.	Iowa	11.1	6.6
9.	Oregon	11.1	3.7
10.	Tenessee	10.9	5.7
11.	Illinois	10.9	6.2
	Average	12.9	5.0

Table IV.

Western States in which Malarial Fevers predominate.

		Malarial Fevers.	Consumption.
1.	Kansas	19.0	8.0
2.	New Mexico	18.1	3.4
3.	Missouri	15.8	8.3
4.	Nebraska	12.7	8.2
5.	Arkansas	11.7	4.2
	Average	15.4	6.4

It will be perceived from these tables, that in the Northern Atlantic States, embracing Maine and Virginia, the deaths from consumption are 21.5 for every 10,000 of the whole number of deaths, while from malarial fevers they are only 1.7, showing quite an antagonism in the two classes of disease. The Western States, lying in about the same latitude, and east of the Mississippi river, except Iowa, have for consumption 12.9, malarial fevers, 5.0, while the Southern States, exhibiting almost every variety of climate, seem about equally divided—consumption 5.6, malarial fevers 6.3. We have no doubt an isothermal line through these States would determine most of the consumptive cases to be in the mountainous districts, and the fevers in the low swampy regions.

The list of deaths by consumption for the Southern States is greatly enhanced, we doubt not, by northern men removing to that section who have diseased lungs. This is particularly true of Florida and Louisiana.

Those States lying between the Rocky Mountains and the Mississippi river seem to be more subject to malarial fevers than any others, the deaths being 15.4, while for consumption they are 6.4.

The whole exhibit tends clearly to prove, that the two classes of disease have a well defined antagonism to each other, arising, most probably, from purely climatic causes, rather than from any specific action of malaria in preventing or arresting tuberculous diseases of the lungs.

Digitized by Google

ART. VIII.—*A Case of Uterine Polypus, Successfully Removed:* By J. S. WEATHERLY, M. D. Read before the Medical Society of Montgomery, Ala.

I present a pathological specimen which has been of great interest to me, and one which I take much pleasure in showing, from the fact that it has given me, whilst it was secure in its resting place, a great deal of trouble and anxiety. It is a fibrous polypus, and resembles very much in shape of body and neck, the case reported by Sims, in his work on Uterine Surgery, and represented in his thirty-fifth illustration.

Sims' classification of a uterine polypi is admirable, and it seems to me a very great step in advance of most authors. It is simple, and at the same time to the point, and especially practical.

His third class is the one I propose to examine in connection with the case I propose to report. He says that "intra-uterine polypi grow from the fundus, the anterior or posterior walls of the uterus, but more frequently from the anterior walls." Jones and Sieveking "say the most frequent situation is just below the opening of the fallopian tubes. The next most frequent situation is the fundus and posterior wall, rarely on the anterior wall."

As to the structure, pathologists say that it varies. To the naked eye, it exhibits at times a concentric disposition of fibres, but more commonly an irregular wavy appearance presents itself, without any uniformity of arrangement. Occasionally the fibrous tumor presents a lobulated appearance or conformation, as in the case under consideration.

Jones and Sieveking regard polypi as homologous productions, as hypertrophies of the matrix from which they spring, rather than of a character totally different or at variance with that of their nidus; Dr. Bristowe regards them as entirely muscular; Dr. West says, in general structure, these tumors are almost identical with those we have hitherto been studying (viz., fibrous tumors); the only important difference, perhaps, being, that whereas the growth of all the former cases was distinct from the uterine tissues, even though imbedded in it, or projecting from it. Some polypi are positive outgrowths of uterine tissue, their texture, and that of the womb itself being inextricably interwoven.

"The pedicle of these tumors is composed of uterine substances mingled with more or less dense cellular tissue. It is also usually covered by the mucous membrane of the uterus. The supply of blood-vessels is usually small, not more than one or two blood-vessels can generally be seen entering them." The two grand symptoms of uterine

Digitized by Google

polypi, are hæmorrhage and leucorrhœa or watery discharges, persistent, and the hæmhorrhage greatly aggravated at each menstrual epoch. The diagnosis of intra-uterine polypi, is much simplified by the use of sponge tents, for without an exploration of the interior of the uterus, of course every thing is uncertain. By their use we can at once come to a conclusion, and say positively, whether there be a tumor projecting into the cavity of the uterus or not. And we are also enabled to encourage our patients as to the result, provided we diagnose a polypus. For it makes no difference how large or small, if it be a tumor with a neck to it, we can safely promise its removal, and a fatal result, or return of the tumor an exception to the rule. I will now proceed with the relation of the case and the operation, which has called forth the above remarks.

Mrs. G—— is about forty-seven years of age. Nearly three years since, she applied to me for some irregularity in menstruation. Up to that time she had been remarkably healthy, weighing over two hundred pounds, with a very florid complexion. She states that menstruation had always been very profuse with her, generally lasting a week or ten days. At the time she first applied to me, she was suffering from leucorrhœa, and rather more profuse menstruation than common. Her digestion was considerably impaired, and at one time she was threatened with chronic diarrhœa.

For some time I thought she was approaching the critical period of her life, and was disposed to attribute her symptoms to that cause. But as she gradually grew worse, I thought it prudent to examine the uterus with a speculum. The examination revealed a slightly engorged and ulcerated os, sufficient, I thought, to account for her bad symptoms. Proper treatment soon relieved her of this. Her digestion also improved, and the diarrhœa was checked entirely. The relief, however, was only temporary, and about eighteen months since menstruation became so profuse as to seriously threaten life. It would last two or three weeks, and of course the drain soon reduced her very much. I examined the uterus repeatedly, but it was now perfectly healthy, so far as the speculum revealed, and the os only large enough to admit a No. 8 catheter. I now became convinced that there must be some cause of trouble situated within the uterus itself, and very naturally concluded that it must be either a polypus or fibrous tumor.

At that time I was not familiar with the use of sponge tents, so I contented myself with trying to control excessive hæmorrhages and keeping up her general health. I succeeded in controlling the hæmorrhages by injecting per-sulph. iron through a gum-elastic catheter into

Digitized by Google

the womb, and afterwards plugging the vagina with cotton. I never saw any bad effects from the injections, and I think the cotton tampon preferable to anything else. I pursued this course for several months, and found no difficulty in controlling the hæmorrhage provided I used the remedies about the second day after its commencement. About the 1st July, 1866, some three or four days after one of her hæmorrhages had been checked by the use of the iron and tampon, she commenced complaining of bearing-down pains, which she said resembled labor pains. As I happened to be in the house at the time, I proposed to make an examination whilst she was suffering from the pains, thinking that I might possibly be able to explore the interior of the womb; and sure enough I was much gratified at finding the os sufficiently open for my index finger to pass through it and enter the cavity of the uterus, where it came in contact with a firm, elastic tumor, which I had no doubt was a fibrous polypus. It felt very large, filling the whole cavity of the uterus, and seemed to be pushing it up into the abdomen. I satisfied myself that it grew from the right antro-latral surface of the uterus, and was attached by a very broad and short neck.

I informed her that she would have to submit to an operation. I was debating with myself as to how I should proceed with regard to its removal, when I procured a copy of Sims's Uterine Surgery. After reading his article on polypus, I thought I should have no trouble, for he has a way of making one think that all of these uterine operations are very simple and easily done. I immediately ordered an ecraseur with Sims's improvement, and resolved to await its coming before I attempted an operation. It was about two months before I received it, and in the meantime I had injected the per-sulphate occasionally, thinking that I would restrain the drain as much as possible, so that she might gain some strength before the operation. By the time I was ready she had improved so much that she refused most positively to submit. The discharge had now almost entirely ceased, and she had gained very materially in flesh and strength. She remarked that she thought menstruation had ceased on her, and that she felt sure she would now get well anyhow. The os was now very small again, and she went about four months without any hæmorrhage. I was debating with myself whether or not the injections into the cavity of the uterus had not had a curative effect. But as she seemed to be doing well, I determined to let her alone. In December, however, she had a slight hæmorrhage, and I discovered the polypus again, and it did really seem to have gotten smaller. About 20th January, 1867, she had a severe hæmorrhage,

Digitized by Google

and I had to use the tampon for two or three days. I hesitated about operating during menstruation, but thought I would do so immediately after it ceased. I, however, could not get her consent. But about the 1st February, as her strength was rapidly giving way, I determined to steal a march on her, and as there was some hæmorrhage, I introduced a tampon in the morning, and at 12 o'clock at night, under pretence of removing it, I introduced a large sponge tent. At 10 o'clock next morning, under the influence of chloroform, and with the kind assistance of Dr. Baldwin, I attempted the operation. I soon became convinced that I could not get Sims's dilator over the tumor, and that I would have to adopt some other method; and I will state here that I do not believe that it will accomplish what its enthusiastic inventor claims for it. I think for small polypi, near the mouth of the womb, it may do; but for large growths, situated high up in the cavity of the uterus, I do not think that success can be claimed for it, and, moreover, I am satisfied that a great amount of damage might be inflicted upon the body of the womb with it. I now seized the tumor with a pair of strong Vulsellum forceps, and attempted to drag it down through the mouth of the womb. It seemed to be almost as firm in its situation as the uterus itself. I finally, however, succeeded in pulling a considerable portion of it through the os; it looked almost perfectly white. The operation had now been prolonged so much longer than I anticipated, and as there were evident symptoms of prostration, we concluded it prudent to postpone further attempts at that time.

She lost very little blood, and quickly rallied from the effects of the chloroform, and in two or three days seemed to be as well as she was previous to the attempted operation. On the 6th of February she sent for me in great haste. I went as soon as possible, and found that the polypus had escaped from the womb, and was lying in the vagina, filling it almost completely, and giving rise, as she expressed it, to very strange feelings, which had alarmed her very much. She had had slight expulsive pains ever since the attempt at an operation, so that I am not certain when it first came from the uterus. I am satisfied, however, that the portion pulled down into the mouth of the womb never returned, but served as a dilator, and the whole tumor was forced through the open os.

I again placed her in position for operating, putting her under the influence of chloroform. With the ready and efficient aid of Dr. Baldwin, I passed the chain of the ecraseur over the tumor (pulling it down with the hooked forceps) down to the neck, which was very large, and

Digitized by Google

without the loss of a tablespoonful of blood. Against positive orders this patient was sitting up on the next day after the operation, and two weeks afterwards she took a long carriage ride, and suffered quite severely from metritis for several days. She however recovered from that without much trouble.

P.S.—There was no discharge for two or three months after the operation; she has menstruated, however, two or three times since, but not at all excessive. The tumor was as large as a big orange, almost as thick one way as another, and nodulated.

ART. IX.—*Eclampsia; or, Puerperal Convulsions:* By D. WARREN BRICKELL, M. D., Professor of Obstetrics, etc., New Orleans School of Medicine.

LECTURE.

GENTLEMEN—Having taken a cursory view of pretty much all that constitutes convulsive and spasmodic phenomena, whether physiological or pathological; having defined the phenomenal appearances of Eclampsia gravidarum, and subjected the same to comparison with other diseases to which it is considered more or less analogous, it seems to me to be just the stage at which we should give our attention to what is called premonition of the affection.

The general idea to be derived from authors is that, while in the great majority of cases more or less distinct premonitory symptoms exist, frequently there is no premonition whatever, the patient passing instantaneously from a perfectly normal labor into one most gravely complicated. Such is certainly not the result of my observation. During gestation we always have plain premonition, and the same is generally sufficiently prolonged to attract the attention of the jealous practitioner. In labor the premonition may not be by any means so distinct, and the duration of its existence may be but short, but I believe it is always there. At any rate, I have never had the first convulsion to occur when I was present, that I had not previouly seen something to excite my uneasiness, and I find it hard to believe that a woman can pass in an instant from a condition absolutely normal into one so critical as is the subject of Eclampsia. When we come to consider the management of these cases, I will recur to the importance of closely studying the symptoms that should warn us of the attack.

Digitized by Google

Among the symptoms of premonition, whether during gestation or in labor, are impairment of the senses, those of sight and hearing being most frequently involved. The patient complains of "dimness of vision," or she may ask you, "why are these specks floating before my eyes?" Or, "why is it that I see all objects double?" Or, "why do I see only half of objects?" Or "there is a singing in my ears," or "a buzzing in my ears," or "partial deafness," or "a sense of fullness in my ears." I saw a case wherein the sense of touch was manifestly obtunded before convulsion occurred. Pain in some part of the head, most generally in one or both temples, or on the sinciput, is a common warning. So with pain or a sense of "bursting" in the eyes, with or without conjunctival injection. All these pains are generally excessive, frequently sudden in accession, and not unfrequently they are preceded by, or associated with, pain in the stomach, especially if the patient has been eating just before falling into labor, and indigestion supervenes. My observation is, that any of these severe pains are preceded by cerebral disturbance, manifested by vertigo or intellectual impairment to some extent. Thus, the patient may converse intelligently, but memory will be found defective; or you may observe rather too much intellectual activity, as will be evinced by an expression of excitement, with the avowal on the part of the patient that she is recalling to mind circumstances long forgotten. Or you may observe more or less delirium, or those intimately connected with the patient may observe this before you do, a point by no means to be ignored by the careful practitioner. Or you may observe more or less difficulty of enunciation; or the patient herself may tell you that she finds herself thick-tongued. During gestation you may observe a waxy hue of the skin, with or without the "puffy face." This puffy face—sometimes limited to the eyelids—is generally accompanied with painful or disturbed sensations about the head. Anasarcous condition of the lower extremities may also be taken as premonitory; though by no means invariably, as we frequently see this the result of simply physically impeded venous circulation.

Either during gestation or labor the patient sometimes becomes loquacious, or you may perceive the reverse—taciturnity. Sometimes it is in the mere expression of countenance that we see the premonition—the same being expressive of anxiety or of melancholy or despair; the pupils being dilated or too much contracted, and exhibiting irregularity under the stimulus of light. On one occasion, being called to a case of protracted labor, I was not disappointed in predicting speedy access of convulsions because of manifest intolerance of light. Sighing

Digitized by Google

or more or less difficulty of respiration, in the course of protracted labor, may be taken as indicative of eclampsia. Coolness of the extremities, with sensation of flushes of the face, are sometimes premonitory. In fact, these premonitions are almost without number, and this fact tends to disprove the too common assertion of the midwife or practitioner, that "the labor was perfectly natural, and in an instant she was in convulsions." The individual in attendance, any of us, may overlook the premonition, but I believe it will always be there. Hence the importance of close study of such symptoms, not only as you read of them, but as you encounter them, for I believe the time is at hand when even the most complete treatment will be in many instances thoroughly indicated by a distinct premonition. Again, I say, in studying premonitions, listen carefully to all that surrounding friends or nurses who are familiar with the patient may tell you of unusual symptoms. In their anxiety they may and do frequently err or exaggerate, but it is for you to weigh the information conveyed. It will often be of great value to you.

Causes—What of the causes of Eclampsia?

Here we enter on the most intricate point in our subject—not excepting treatment. *Sublata causa, tollitur effectus*, is the golden rule in medicine. Remove the cause, and the effect is removed. The philosophy is plain and striking; but there are exceptions. The cause may remain undiscovered or uninterrupted so long, that when at last it is removed, we find a *tertium quid*, a permanent effect, which in its turn becomes a new and permament cause which defies our efforts at removal. Hence, the highest duty of the medical man is to discover first causes, that he may remove first effects. The discoverer of effects, which may or may not become in themselves causes, holds altogether a subordinate position.

For the better understanding of our subject, I think it necessary to divide causes into predisposing and exciting,—a division familiar to all who read medicine.

But it is necessary to comprehend distinctly what we mean by these terms. I will try to state the proposition succinctly. The derivation of the term *predisposing* conveys to our mind the idea that in an individual under medical consideration there is a certain something—a principle if you please—whether temporary or permanent, in its nature, which renders the individual at all times liable to be attacked by a peculiar train of symptoms, though the circumstances which shall bring about the development of the symptoms may be one or in variety.

Digitized by Google

Thus, we say a child is predisposed to croup, and exposure to cold or wet developes the train of symptoms known as croup. But what is the predisposition? Where is it? Is it tangible or visible? No; but we have simply learned by observation that a given child out of fifty has had croup very frequently after such exposure as is mentioned, while the other forty-nine go clear. We say arbitrarily, or experimentally, then, that the one child is *predisposed* to croup.

Again, and physiologically, in the delicate organ called the eye there is the capacity for vision (let us call it *predisposition* for our illustrative purposes)—that is, there is the ability to distinguish objects inherent in the organ; but there will be no sight while the eye is completely isolated from light. Light, then, is the condition necessary to illustrate the inherent predisposition. Yet we have no idea of this predisposition other than that which is the result of experiment. We never could, by originally looking at an eye, pronounce the capacity to see.

Again, returning to pathological states, we say here is an individual with a predisposition to Phthisis. He has not the disease, and, if he avoids the circumstances which tend to develop the train of symptoms known as Phthisis, he may never have it; but we know that his parents and brothers and sisters have died of the disease, we know from observation (experiment) how far such a person is predisposed, and we point out to him the rocks on which he may wreck. We say, then, that although he may never have the disease as we recognize it, may live long, and may die of a gunshot wound, still he carried with him the *predisposition* all his life. And even more, the predisposition may be handed down to his children after him, that which lay dormant in him being fully developed in them.

In the ordinary practice of medicine, then, a *predisposing cause* of disease is an ideal something: it is not evident to the senses, but by observation or experimentation of generations of scientific men it has become evident to our intelligence or imagination, and once established thus, it becomes valuable. It is, also, a something resident in the individual, temporarily or permanently, and ready to be developed at all times under favorable influences—permanently, as in case of constitutional vitiation; temporarily, as where certain influences, as long as they exist, render the individual susceptible.

Admitting such to be the definition of a predisposing cause, we are prepared at once to comprehend what must constitute the excitant, or the something that makes manifest the disease to which there exists the predisposition. There being a predisposition to Croup, cold or wet will

Digitized by Google

arouse it, and are, therefore, exciting causes. There being a predisposition to Phthisis, defective nourishment, exhaustive labor, etc., will develop it, and are exciting causes. Admitting the predisposition to sight on the part of the eye (for the sake of argument), and light is the exciting cause of seeing.

Now, in relation to Eclampsia, I have concluded that it is the true philosophy to admit but one predisposing cause—viz: pregnancy. We have seen that the disease is *sui generis*, and it is only found in the case of the pregnant or parturient woman. It is said to occur at all stages of pregnancy, most frequently during parturition, sometimes continues after delivery, and in very rare instances commences within the first three or four hours after delivery. I assume the position, then, that in any given case of Eclampsia gravidarum, we have a right to say that this disease is present primarily because of pregnancy—that is, were the woman in the unimpregnated state at the day and date we see her, she would have no such disease. But do we see or know anything beyond this that at all fortifies the position. I think so. We have a disease called Infantile Convulsions. Why is it thus termed? Because we see the disease limited to a certain epoch in life, during which it is clearly evident that the nervous susceptibility of the individual is far greater than we afterwards find it. It is common for our profession to say that dentition is a predisposing cause. I say no; even before this process is set up the predisposition is as great, and dentition only becomes a powerful exciting cause. When we have reached manhood, we still have our so-called wisdom teeth to cut, and the process is often most distressing; but we never hear of convulsions resulting, and simply because the susceptibility of infancy, the predisposition, is lost. So in pregnancy. Probably there is no woman who becomes pregnant who is not for the time, in other physiological aspects than the mere developmentary, a changed individual. That there are numberless instances of this thing in such marked degree as to excite observation there is no doubt, and my own conviction is that the rare exception would be to find a woman altogether unchanged. Thus, we find the morose woman becoming gay, the gay woman becoming morose; we see the most extraordinary vitiation of appetite; we see the cheerful woman becoming utterly despondent; we see the neat housewife becoming slovenly and indifferent. Often have I heard my preceptor in obstetrics speak of the joy he had often witnessed in a household where a shrew of his acquaintance would become pregnant. More than this, we see the habitually costive woman becoming entirely regular during

Digitized by Google

pregnancy, and we see the reverse; or we see the immediate development of a healthy appetite when before eating was a punishment; or we see the subject of Phthisis in its rapidly destructive stage, wherein emaciation is becoming extreme, suddenly cease coughing and sweating, and absolutely grow fat and plump, only, however, to sink the more rapidly after pregnancy ends. These are but some of a series of manifest phenomena not to be lightly noted—surely not to be ignored. The fact is, they are the evidences of a profound change of nutrition, which is, in my opinion, the basis on which the whole fabric of our subject rests, and which is the field in which all faithful workers are hereafter to labor profitably.

When we speak of Pregnancy constituting the predisposition, then, let us assume it as an abstract point, taking it as pregnancy in its totality. The moment we begin to analyze pregnancy, we shall seize on separate conditions which are the result of the pregnant, and we will at once be terming causes predisposing which are absolutely exciting. Thus a long-continued labor—a labor of two, three or four days—will produce eclampsia. The labor, then, becomes the exciting cause, but there could have been no labor without pregnancy—the predisposition. Still, I have heard an intelligent practitioner contend that the labor was only the predisposing cause, and that the recondite change produced by protracted effort (the same being supposed to have its seat in the brain) was the great exciting cause. To my mind this is a system of ideal refinement which can lead to no good result. I repeat that we must assume the abstract ground that pregnancy in its totality is the one great predisposing cause of Eclampsia, just as we would assume that infancy—the first three years of our existence—is the predisposing cause of Infantile Convulsions.

But what of the exciting causes? This is a question we cannot undertake to answer without invading the premises of the pathology of the affection, and I think the most profitable course is to consider the two together. But before entering on this path, I think it will be most advantageous to take a glance at that which constitutes the pregnant woman physiologically—that is, so far as we comprehend the subject at this day.

1st, In establishing pregnancy, we interrupt abruptly the important function of menstruation; at least so much of the function as belongs to the uterus. We all know that the pervading rule is, that if this function is illegitimately disturbed in the unimpregnated female, more or less

Digitized by Google

trouble ensues. We cannot, then, ignore the sudden suspension which occurs with the establishment of pregnancy.

2d, Immediately on the establishment of pregnancy positive growth and change of structure occur in the case of the uterus, and soon, as a result of its evolution, its peritoneal envelope and the abdominal walls which enclose all must be evolved *pari passu*, and ultimately to an extraordinary degree. And when we speak of the evolution of these various structures, we must remember that it is evolution in its minuteness. Muscles, nerves, blood-vessels, all must grow in proportionate degree; nothing is mechanically stretched, or if it is, then is there aberration from the true physiological path, and more or less distress is the consequence.

3d, This evolution of maternal structure is, we say, *pari passu* with fœtal evolution. But fœtal evolution is of the mother. The fœtus makes itself, but only of material furnished by the mother. Cut off the maternal fount, and the fœtus perishes.

Now what does all this evolution speak to us of but of increased manfacture of blood—the life fluid from which all things are selected for perfection of all tissues? And does not this mean tension of physiological force? If I am running a steam-engine under forty pounds pressure for the regular performance of certain work, and attempt to increase production, I must put on more steam, or, in other words, increase the power. Of course I do not wholly compare the physiological woman with the mechanical steam-engine; but surely we have a right to assert increased physiological action if we see extra work being performed. The great difference between the mechanical steam-engine and the physiological woman is, that in the case of the former the abstract power—the fuel—is wholly derived from without, and if it is withdrawn the movement ceases, to be renewed only, but certainly, on the re-application of the power; whereas, in the case of the latter, the individual first makes the abstract power—the food—into itself, and then moves in consequence of it; and then, more important than all, if the abstract power be withheld, the individual moves on with progressively diminishing speed, wringing its power out of itself, until destruction—death—ensues.

We have two kinds of legitimate exertion which tend to exhaust the sound physiological man from day to day—viz: mental and muscular; but take two individuals, neither of whom are performing mental labor, but one is working as a blacksmith at the anvil while the other is at perfect rest: must not the physiological movement—the waste and reproduction—be far more active in the one than in the other? Do not

Digitized by Google

feed either; keep the one at work and let the other rest, and the problem soon solves itself. So I imagine that when we look on a pregnant woman we see a greatly increased work to be done, and there is an increased physiological activity to meet the end.

This blood being prepared in sufficient quantity, and of required quality, and the fœtus being developed therefrom, and through the beautiful and intricate process of endosmose, this simple act must not be viewed by itself, but we must with equal interest study the means by which the fœtus, in process of development, rids itself of the debris, the effete products of the combined action of life and decay; and in doing so we are forced to acknowledge that this same life current of the mother, which furnishes structural material to her developing offspring, must be the medium through which effete products are carried away. For instance, we know that the child *in utero* cannot breathe, consequently it cannot furnish itself oxygen from any other source than the mother's blood; but we find both arterial and venous blood circulating in the fœtus, and we know that the carbon of the venous blood must have exit, or asphyxia will ensue. Just as there was only the mother's blood from which to derive oxygen, so we say it is only through the mother's blood that the carbon can be discharged. There is no other channel for the performance of these functions. But the oxygen derived from the mother is not sufficient for development; albumino-oleaginous material out of which to construct tissue is taken in by fœtal endosmose. So, also, carbon is not the only effete matter to be discharged; consequently all fœtal debris must pass into and vitiate the returning blood of the mother. Here is not only an intricate, but a temporary physiology—a physiology to be suddenly suspended, and as suddenly reinstated, at longer or shorter intervals during more than a third of the standard term of life allotted woman; and a part of this physiology is, *pro tanto*, absolute vitiation of the blood of the woman.

But, in the course of the evolution of the fœtus, physical results ensue, and these are often important. In the earlier months of pregnancy, while the organ is yet within the pelvis, dragging on, or pressure upon, the bladder, and pressure on the pelvic nerves or blood-vessels, cause more or less distress. Then, in the late stage of pregnancy, we have more or less displacement of, or pressure upon, the more important viscera, as the intestines, liver, kidneys, spleen, with pressure on the large and important blood-vessels. We have, also, pressure against the diaphragm, and consequent interference with the function of respiration. These conditions, or any one or more of them, are borne by the mass

Digitized by Google

of women with fortitude and patience, and no evil results; but exceptional cases are either the victims of great functional disturbance and distress, or, escaping this, the pain and restraint, entailed and prolonged during months, at last, through the moral channel, vitiate the general physiology.

So much in a very cursory way, for physiological and physical results. Now what shall we say of *exciting causes?*

You may think it strange that here I digress again; but you will not fail to see the practical bearing of the act as we proceed with our subject. I have assumed pregnancy to be the one great predisposing cause of Eclampsia. Hence you may assume that every pregnant woman is Eclamptic. To a certain extent, (and this is just to the extent that we permit healthy women to labor indefinitely without assistance), this is true; but when I come to show you how few pregnant women (comparatively) have Eclampsia, you will see that the modification of the proposition is very material, and that the same must be borne constantly in mind.

So far as my reading goes, the average of eclamptic cases in England and Continental Europe is about 1 in 350 cases. The results of my own personal observation would make the affection appear far more frequent than this; but it would not be a fair test, as my observation of such cases has been confined almost entirely to private practice, and I cannot now look back on a single case that did not occur in the hands of a midwife or a practitioner of medicine, I being called on for assistance. Here, again, I have to regret the loss of all my statistics collected before the war, and which would now be so valuable. I have often congratulated myself that I never had a case of Eclampsia to originate in my hands. Of course I may be called to one to-morrow. Within the past year I have seen, in private practice, five cases. Under the European statistics, I should have observed, in the same time, about 1750 cases of labor—rather too much of a good thing.

Let us take it for granted, however, that you are to look for Eclampsia in only 1 in 350 of your cases of pregnancy, what is the trouble that induces this case? If I were to base my reply solely on the cases I have seen and carefully inquired into, I should say, 1st, unnecessarily protracted labor; 2d, positive disease, the result of pregnancy, and antedating the appearance of Eclampsia.

There is no doubt that the idea we derive from the books is that any pregnant or parturient woman is to be expected to have Eclampsia. I beg to dissent entirely from any such doctrine, I have shown you that

Digitized by Google

there are intricate physiological and physical conditions incident to the pregnant woman, and he who studies them must be brought to admit that even slight aberrations in such conditions are to be expected to produce serious evil; but it would be a libel on nature to suspect the integrity of her work in every case. No, the mass of pregnant and parturient women have no tendency to Eclampsia—no more than they have to malpresentation of the fœtus, or any other deviation from the ordinary state of things.

For myself, I have never seen a woman attacked by Eclampsia during pregnancy, or during the ordinary term of labor, who did not present to my mind the evidences of a preëxisting vitiation. I utterly reject the idea conveyed in the books, that crude ingesta, "irritation of the alimentary canal," "general irritability of constitution," "delicate and luxurious mode of living," "depressing passions," "an overloaded state of the system," "over-distension of the uterus," "distension of the bladder," or "death of the child," will, *per se*, produce true Eclampsia. In the non-pregnant female none of these conditions (ignoring, of course the last) will produce a like affection, and my observation teaches me that in truly healthy pregnant women we are not to expect such results from such causes. My idea is that whenever we see such causes in action, and appearing to arouse a paroxysm, close investigation will reveal some vitiation which makes the individual eclamptic. If it be true that these causes named are the genuine exciting causes—that a *perfectly healthy* pregnant woman, for instance, can become the subject of Eclampsia an hour hence because her bladder is distended with urine, then we have reached the goal all inquirers are striving for; we have pregnancy as the predisposing cause, and with one of these conditions as the exciting cause, matters are made pretty clear—with a proviso. What does an author mean when he tells me of a "general irritability of constitution," or of "depressing passions?" Are not these but vague descriptions of a positive vitiation that exists? Who has an "irritable constitution" and is still in what we call health? For my part, I cannot reconcile the exhibition of the phenomena which lead to such definitions with *health*. Let us, then, adhere to the proposition that only vitiation during pregnancy, or as the result of protracted labors are exciting causes, and let us regard these causes quoted from the books, with others that may be kindred, as altogether *incidental* in their nature. I say again that we have Eclampsia in only one in 350 cases of pregnancy; death of the fœtus occurs in a great many cases without the supervention of Eclampsia; consequently, in the exceptional

Digitized by Google

case of Eclampsia after death of the fœtus, we should look beyond the death of the fœtus for the true cause of the trouble; the utmost that can be said for fœtal death is that it is an *incidental* cause.

But what are these conditions of vitiation to which I have alluded as being most probably productive of Eclampsia? I have told you that long protracted labor is, in my opinion, one of the exciting causes. I wish I could draw the picture as I have time and again seen it, and as I must expect to see it again while, in my time, medical men and midwives bow so profoundly to the great *vis medicatrix naturæ*. Churchill tells us that of 812 cases of labor the duration of the second stage, or stage of expulsion, in 396 was 1 hour; that of 142, 2 hours; that of 120, 4 hours; that of 50, 6 hours; that of 34, 8 hours. So that the average duration of this stage in 742 cases was a little over 4 hours. My observation teaches me that in unassisted labors presenting no serious difficulties, this is about true. Now, I have shown you in my lectures on the forceps that, according to Professor Simpson, in proportion to the duration of labor is the mortality to the mother—that of mothers who were in labor only one hour, only 1 in 322 died, while of those who were in labor above 36 hours, 1 in 6 died—the proportion of deaths more and more rapidly increasing as the duration of labor rose from 1 to 36 hours. It is to be regretted that we have no statistical information in relation to the proportionate occurrence of Eclampsia under the same circumstances. Certainly my individual observation leads me to believe that the same rule can be applied to such cases. I have never seen an instance of a *healthy* woman becoming eclamptic within any reasonable duration of active labor. Cases apparently the full results of the parturient effort have only occurred after that effort was protracted.

Now, how can vitiation occur as a result of protracted labor? 1st, there is pain unspeakable to endure, and it will hardly be questioned that this is a most thoroughly depressing power. 2d, there is mental anxiety of the acutest kind, and as influential perhaps as pain. 3d, there is the waste of physical energy, which, under the fashionable plan of starving the parturient woman, is rapidly progressive in its nature, for there is no concomitant reparative action. 4th, the exertion of this physical energy is directly interruptive of the function of respiration; thus the circulation becomes disturbed and accelerated, and wear and tear is greater and greater. 5th, other functional disturbances arise, as of the brain, kidneys, etc.

But you will say, what is the vitiation? I reply, it must be of the

Digitized by Google

blood—the life structure in its fluid form. There is lesion of nutrition; no more healthy blood flows through the system; consequently no more normal functions are performed. Have I not seen high fever arise in the course of protracted labor? Have I not seen delirium (wild or painfully muttering) supervene? Have I not seen hypersecretion of urine, or its terrible reverse, absolute suppression? Have I not seen the tongue become red, then dry as a chip, then the accumulation of sordes on the teeth? Have I not seen the function of the skin utterly cease, and even the mucous passage of the vagina itself, through which the child is expected to pass, become absolutely dry and so hot as to be really disagreeable to the hand introduced? Have I not seen at last permanent delirium, hiccough, "clammy sweat," and then *death*—all in protracted labor? Or if from the symptoms enumerated the patient gradually recovered, have I not seen her pass through all the stages of adynamic fever, rising from the grave, as it were, through all the phases of a long protracted recovery? And if all these things speak not to us of blood vitiated, of lesion of nutrition, then point to the true pathology. Yes, but the skeptic will ask me to define that particular vitiation of the blood which gives rise to all these grave conditions. I freely acknowledge that I am not prepared to do this, though I do not see that we should despair of the accomplishment of so desirable an end at some future day. Still, for all practical purposes, perhaps it is sufficient that we know the abstract fact that protracted labor can and does produce these dire results; for, knowing it, we are unerringly pointed to their easy avoidance.

And it is just in the midst of such formidable conditions, gentlemen, that the disease we have under consideration manifests itself. Our patient becomes vitiated as I have shown, Eclampsia supervenes, and then we have what the books are pleased to term a "complex labor" that is, we have Ramsbotham's "lingering labor," *plus Eclampsia gravidarum*. A lingering labor, they would have us believe, is a thing not to be uneasy about, unless "dangerous or unusual symptoms manifest themselves." A healthy woman is allowed to tug away indefinitely to accomplish a very difficult, or even an impossible thing, and when Eclampsia supervenes this condition is treated as a sort of original disease—the manner of its origination being utterly ignored. Now, while I have enumerated those manifestly grave phenomena which all observers have witnessed as the concomitants of protracted labor, I wish to be distinctly understood as not advocating the doctrine that these must be manifest ere Eclampsia can supervene. On the contrary, I

Digitized by Google

believe that lesions of nutrition not yet making themselves manifest through such phenomena, either in whole or in part, may give rise to Eclampsia; so that in any case of protracted labor it may only be this grave manifestation itself of trouble that first arouses the attention of the ordinary observer. In other words, lesions induced by protracted labor do not manifest themselves uniformly in all women, and will not so long as there is variation in age, constitution, temperament, and all those conditions which tend to modify disease in all its phases. I say again, that I am utterly indisposed to believe that any perfectly healthy woman passes instantly into Eclampsia, as I have tried to make you define it, from the causes the books generally call exciting, but which I have characterized as incidental. In over twenty years of observation as student and practitioner I have never seen such a case, and it seems to me most unreasonable to suppose that I ever will. I believe firmly, as I have said before, that in any labor where Eclampsia occurs, the truly cautious and acute observer will always perceive some one or more disagreeable phenomena antecedent to the Eclampsia; but I at the same time believe that a casual observer can readily overlook these, and only be aroused to a sense of impending danger by the actual supervention of the spasmodic phenomena. The difficulty with medical men seems to be in realizing that the ordeal of hard and protracted labor can and does produce blood-vitiation—lesion of nutrition, and yet there are the symptoms as I have detailed them staring them in the face. Do you not believe that if you keep a blacksmith hammering away at his anvil day and night for twenty-four, forty-eight, fifty-two or more hours, with intervals of physical rest of only a few minutes, without sleep, with extreme mental anxiety, and more especially without sufficient good and nourishing food, that the very same symptoms would manifest themselves, and that death could actually ensue? Surely it is not hard to realize such results under such influences. Or is it more difficult to believe that blood-vitiation of the intensest kind could occur under such circumstances, than as a consequence of the introduction of the smallest particle of the variolous virus beneath the skin of the healthy subject? The fact is, that some of the identical symptoms we witness in variola and other zymotic diseases occur as the result of protracted labor—as fever, delirium, dry tongue, excessive thirst, jactitation, even convulsions or spasms. So that we cannot escape if we would from the conviction that no one or more of these manifestations is more than the monitor that advises of the existence of disease—that they themselves, even in all their completeness, never did and never will

Digitized by Google

constitute the disease proper. And yet, having inoculated a subject with small-pox, having poisoned his blood, having induced lesion of nutrition, having induced all the train of symptoms named, having even induced death itself, we are not at the present day able to say, after due examination, what the peculiar vitiation of the blood in a case of small-pox is, either in the beginning, middle, or end of an attack. No doubt, when we shall have arrived at this knowledge, we shall treat our cases more satisfactorily. Meantime, because we cannot define this lesion, we do not, therefore, abandon the theoretical assertion of its existence, and, seizing on the fever, or the pain, or the dry tongue, or the eruption, or even the convulsions, uncompromisingly avow that this or that is the disease in its essence. I repeat that I do not believe that a *perfectly healthy* woman, pending a perfectly normal labor, will fall into Eclampsia because a door is suddenly slammed, or because her bladder happens to be distended with urine. There must be the pre-existing exciting cause before one of these incidental causes can operate thus. You must not expect me to apologise for this repetition. We are discussing a subject of the profoundest interest; I find myself forced to join issue with the teaching generally adopted and subscribed to, and I adopt my own method of doing so.

But women have Eclampsia during pregnancy—before they reach the condition of labor; and, therefore, when the exciting cause termed "protracted labor" is not operating. How shall we account for this?

The most popular idea is that such cases are "uræmic;" that the function of the kidneys is interfered with, that elimination is curtailed or entirely checked, that the blood is poisoned, and hence the train of symptoms called Eclampsia. At one time it became quite the rage to explain this renal disturbance on purely physical grounds. It was asserted, and believed, that the pregnant womb pressed on either the kidneys themselves or their great blood-vessels, and hence perversion of function, toxæmia and Eclampsia. The theory was captivating, but all would not accept it without investigation. It was found that abdominal tumors (uterine and other) of far greater size than the pregnant womb ever reaches, maintaining their position infinitely longer than the whole term of pregnancy, and which must assume the same course of mechanical action, produced no such effects. More, it was found that well marked Eclampsia occurred in the cases of pregnant women whose uteri had not yet grown to such size as to mechanically interfere in the manner indicated. The result has been that we are forced to fall back behind all this fancy and search anew for causes. But let us lay aside

Digitized by Google

the mechanical explanation of the condition of *albuminuria, uræmia, toxicæmia,* or whatever it may be called. So far as my reading and personal observation goes, I believe it is true that the great majority of cases of Eclampsia are subjects of *albuminuria,* that a few do not yield, under test, the evidences of this condition, and that many pregnant women may be the subjects of uræmia, and yet not have Eclampsia. Now these facts give rise to two schools of teachers—those who, because albuminuria is nearly always plainly present, believe it to be *the* cause of Eclampsia; and those who, because there are cases of Eclampsia without albuminuria, and because there are plenty of cases of albuminuria without Eclampsia, ignore the condition as a cause at all. My own conviction is that both are wrong. Take that renal affection called Bright's disease; watch it through all its stages, even unto death. The rule is that sooner or later convulsions supervene; and yet I have seen the best marked cases under treatment in hospital, for months at a time, and even unto death, and no convulsions ever appearing. Yet it would be wrong to say that this organic renal disease never causes convulsion. The function of the kidneys is certainly a most important one, and its material interruption must be expected to cause great perturbation, though the character of the perturbation will vary somewhat in different subjects. Within the past year I have had a most prominent case of Bright's disease in my ward in the Charity Hospital. She had been treated for another disease, and when I pronounced my diagnosis (the prognosis being that she would die in a few weeks), it was thought very strange, and simply because, in so late a stage of the disease, there had been no convulsion, and indeed no marked cerebral symptoms. I confidently expected convulsion before death, but the symptom never appeared—the gravest cerebral infirmity being partial loss of memory. We all know that when the renal function is totally suspended in acute disease, we look for cerebral disturbance, and yet probably no man of extended experience in the treatment of yellow fever has failed to observe exceptions to the rule. I have seen a case wherein no urine was secreted from the inception to the close of the attack, wherein the patient lived for five days, and yet there was no marked cerebral disturbance; and a medical friend has detailed to me a similar case. These observations teach us to avoid extreme conclusions.

But does pregnancy produce organic renal disease, and thence Eclampsia? We have already seen how few pregnant women, in all the stages of that condition, are subjects of this grave affection; we have seen that it occurs in cases wherein no evidences of renal disease

Digitized by Google

exist, and there can be no doubt post-mortem examinations have failed to detect renal disease. I can safely say that in three cases I have examined the kidneys gave every indication. under the knife, of health; and certainly renal disease sufficient to cause death ought to be somewhat evident to our senses. But more than all, we see some of the most appalling cases of Eclampsia recovering promptly after delivery, and thenceforward no evidence of renal disease is manifested.

Now, I am willing to admit that an occasional case of organic disease of the kidney may be found among the eclamptic, but my conviction is that the renal aberrations generally witnessed are merely functional, and that they are rather the result of lesion of nutrition—true blood changes, or blood deficiencies—than at all primary in their nature. The physical explanation of renal disturbance having exploded, there is no good and sufficient reason why the kidneys, more than any other organ, should be disturbed by pregnancy.

The theory so extensively prevalent, that Eclampsia is the result of plethora—a superabundance of blood—I utterly reject. After long-continued observation, I have come to the distinct conclusion that our professional brethren greatly err on this point. In the first place, some of the most formidable cases of Eclampsia are met with in the pale, feeble—the positively anæmic woman; the woman who is feeble before she enters on pregnancy, who fails physically at every step of the process, and who never has blood enough in her. Again, the hearty young woman will become pregnant, her health will thenceforward be day by day deteriorated, and she will fall into Eclampsia when absolutely debilitated. Will so-called "plethora" and its reverse produce identically the same disease? That the apparently robust woman, the so-called "plethoric" woman, is found the subject of the disease, I have no doubt; but I believe that further and patient, unprejudiced, observation will prove that all such women, during pregnancy, or in the midst of hard labor, give evidence of something beyond a redundancy of blood to produce the phenomena we witness. To show how far this idea of "plethora" is carried, Professor Hodge, one of our most valuable authors, says—"although, therefore, the presence of albumen in the urine, and the existence of anasarcous swelling, should never be neglected by the prudent practitioner, they should be regarded as the evidences of hyperæmia, not of toxicæmia."

What a monstrous fallacy must this necessarily be, when we behold our absolutely anæmic and attenuated obstetric patients piteously anasarcous and the subjects of albuminuria in its most striking form. Or leave

Digitized by Google

pregnancy out of consideration; take man, woman or child who is uræmic and anasarcous, and will Professor Hodge argue for a plethoric condition. Or take the patient in the last stage of Bright's disease, when these conditions of albuminuria and anasarca are so prominent, and will it be contended that "plethora" exists? I am sure there is a great error in the conclusion that the *healthy* woman, who is (as the common cant goes) "full of blood" is especially obnoxious to Eclampsia. My own observation teaches that a greater number of the deteriorated, the delicate, the unhealthy, are the special victims; and that where one of apparently the opposite class falls, careful inquiry will reveal a vitiation behind the fancied "plethora."

But there is one more cause of Eclampsia which I must bring before you, as probably not one of you will fail to find it of practical importance, seeing that you will pursue your professional work in this southern country. I have never seen or heard the subject alluded to, yet I have long called attention to it in this lecture-room.

I allude to malarial vitiation, and especially as the result of Intermittent Fever. All men who practice medicine where intermittent fever prevails become familiar with the wonderful extent to which this disease, in its chronic form, vitiates the blood. Now, I am satisfied that I have seen this vitiation result in Eclampsia. That it is a common cause of amenorrhœa is well known; and that it frequently leads to abortions or to premature delivery, there is no doubt. More, I have no doubt that the blood of the woman can become so vitiated that her child within her will ultimately become the subject of the disease. I am sure I have seen children born from such women presenting all the general appearances peculiar to the disease, and within a week or two after birth having distinct paroxysms. I repeat that I believe malarial vitiation to be a distinct cause of Eclampsia, and I beg to remind you that such cases can hardly be ranked as "plethoric."

(*To be continued.*)

ART. X.—*Researches into the Pathology and Cause of the present Epidemy, ordinarily called "Yellow Fever:"* By DR. H. D. SCHMIDT, of New Orleans.

To the Medical Profession of New Orleans:—It is not by a vain desire for notoriety, or love to instruct, but by the sincere hope of assisting,

Digitized by Google

according to my limited capacity, in throwing some light upon the nature of that terrible disease, that still envelops our city in mourning and blasts our commerce and prosperity, that I humbly lay the following, thus far, incomplete researches and observations before the medical profession of New Orleans. I would have preferred to carry them nearer to perfection, by pursuing the track which I discovered in a more systematic manner, proper to scientific researches, and then offer them to the profession in the form of a well arranged treatise, if I had not found the task too great for the limited time and means of one man. It is necessary, therefore, that many should contribute their share to complete the work; and it is especially for this reason, though late, that I take the opportunity to write this hasty article, in order to direct the attention of the profession to this subject, the material for the study of which can only be obtained while the epidemy lasts. Although my observations, made thus far, have not disclosed a special remedy for the disease, their communication, nevertheless—more so, if it could have been accomplished sooner—might, by exposing the true nature of the disease, perhaps have assisted, or still assist, the practitioner in the selection of his treatment. I hope sincerely, that by thus opening the road to investigation, and pointing out the true manner in which it has to be pursued, my professional brethren may be stimulated to a harmonious and united action, for the purpose of tracing this disease—which frightens the stranger from our doors, and makes the world look upon our cheerful city with terror—to its origin, and of finally discovering, if not special remedies to arrest its ravages, at least, means and ways of precaution to prevent its generation and spreading, and also a rational treatment to deprive it of its terror and fatality.

As the following is not intended to bear the name of a properly arranged treatise on the subject, I shall not stop to describe any of the general symptoms which accompany the disease during its course, but take it for granted that, by this time, every physician in the city is familiar with them.

In looking at the various phenomena which, in the course of this disease—ordinarily, though wrongly, termed "Yellow Fever"—present themselves, the intelligent observer cannot but recognize them as the result of a terrible struggle going on within the system, between some destructive poison, introduced from without, and the vital forces of the latter; or, in other words, as the place of combat is undoubtedly situated within the circulation, between the poison and the constitution of the blood. The poison, which to all appearances is organic in its nature,

Digitized by Google

cannot exist, as such, for a great length of time within the blood, without being, by virtue of the vitality of the latter, eventually chemically decomposed and thus destroyed; and this accomplished, the accompanying symptoms of the disease would disappear, and the latter terminate in recovery. But in order to effect the decomposition of the poison, every atom of the latter demanded also an atom of the normally constituted blood to combine with. During this process, a portion of the blood, according to the quantity of the poison present, becomes disintegrated and decomposed, and very likely the normal constitution of the remaining portion becomes also altered to some extent. This is not all. The products formed by these combinations taking place between the constituents of the blood and the poison, if not removed from the circulation by the various glands of the animal economy, will, in their turn, act also as a poison, and increase the disturbance already set up in the whole system. Accordingly, it must be obvious that, in otherwise uncomplicated cases, the favorable or fatal termination of the disease must, to a very great extent, depend on the relative quantity of the poison to the quantity and constitution of the blood. If, after the poison has been destroyed in the manner I have indicated, there is blood enough left in a condition of integrity to supply the wants of the various organs of the system, recovery will follow, if not—death will be the result.

The only organs through which the decomposed materials of the poison and blood can be eliminated from the system by a normal process, are the secretory and excretory glands, and it is to the functions of these that, above all, the practitioner must look during the treatment of the disease. But there is another mode, though a desperate one, by which—as from a number of observations I am now much inclined to think—nature makes an attempt to rid herself of the poisonous materials; this is by a direct rupture of the capillaries of the mucous membranes, causing thus the various hæmorrhages, and if it occurs into the stomach, what is usually termed "black vomit."

It is chiefly by the microscopic examination of the various kinds of vomited matters, from the mere white frothy mucus to the black liquid bearing the characteristic appearance of "coffee grounds," together with my practical observations at the bedside, that I have derived the greater part of my information into the nature of the disease, and before proceeding farther with the subject, it may be proper in this place to first give a brief description of the elements found in the ejected matters. They all resemble each other more or less, the main difference between

Digitized by Google

them is either the absence or presence of disintegrated blood, and its relative quantity, The first black vomit, having the genuine appearance of coffee-grounds, which I ever examined I met with in my private practice, towards the close of the year 1861, at a time and season when there was certainly no yellow fever prevailing in the city. It was the case of a lady to whom I had been called about two days before she died. The circumstances of the case—which, not belonging to this place, I shall pass over—were peculiar, and a post-mortem examination was requested by some of the friends. I made it, in company with one of our oldest and most respected physicians who had been called in consultation on the previous day. About four fluid ounces of black matter were found in the stomach; some had also been ejected ten minutes before death. The disease itself I hesitated not, according to what I had observed, to pronounce "Pernicious Fever." The black liquid, together with the stomach, I took with me, and subjected them at once to a thorough microscopic examination, the results of which were as follows: It mainly consisted of blood, the solid elements of which were peculiarly altered and suspended in a thin, mucoid liquid. The latter, of course, consisted of the gastric secretion, mixed with some water which had been swallowed before death. The alteration of this blood was peculiar, for while, in the normal state, the red blood globules are far more numerous than the colorless, the reverse was found here. Moreover, the former, which, in their normal condition and when not collected in masses are, under the microscope, of a greenish-yellow tint, were entirely colorless, with their diameter considerably diminished; the latter, on the contrary, were found colored in various shades, from the faintest yellow to the dark brown. Besides this, there were smaller and larger masses of free pigment, some amorphous and of a lighter and darker yellow color, others dark brown, bordering even on the black, which seemed to be granular. There were also a great number of free granules, which I regarded at that time as pigment granules. It is not difficult to explain the changes this blood had undergone. A large number of red blood corpuscles had, most probably, suffered entire disintegration and decomposition, to leave nothing behind but their hæmatin; the remaining ones had only parted with it, and, in consequence, lost their color. But the hæmatin itself, thus set free, was partly absorbed by the colorless blood corpuscles, while the rest collected to form those shapeless masses mentioned above. The free granules which I then also regarded as free pigment, I am, however, at present inclined to explain otherwise. The prominent features

Digitized by Google

of this black vomit were, then, the disintegration of the red blood corpuscles with their hæmatin set free. The mucous membrane of the stomach, in this case, was considerably reddened towards the pyloric extremity; in the cardiac extremity only a few red patches were found scattered over the surface. The uninitiated superficial observer might have taken the redness for the signs of inflammation. But this was not the case, for it was only caused by an extravasation of blood from the ruptured vessels into the tissue of the membrane. Of this I shall come to speak again.

The next opportunity I had to examine specimens of black vomit was during the past summer, when the first fatal cases made their appearance at the Charity Hospital. These were genuine, with all the pathognomic symptoms of the disease, and in their most characteristic form, about them. The black vomit presented nearly the same character as that already described. The dark masses of pigment, however, were wanting, for the hæmatin here presented itself in formless, amorphous patches, or converted into hæmatoidin crystals. The disintegration of blood corpuscles must also have progressed farther in these specimens, for the proportion of globules left, colored or colorless, to the free pigment and disintegrated particles was far less than in the case above described. Besides these elements, there were also a number of large, flat epithelial cells to be seen, but none of the columnar kind, belonging to the epithelium of the mucous membrane of the stomach. To this fact I shall refer again hereafter. Desiring to know more about the condition of some of the internal organs, I also made two autopsies, as far as my time would allow it. But, not thinking that the disease would ever assume the character of a wide-spreading epidemy, my attention was chiefly directed to the liver and stomach, for the purpose of collecting information for my labors on that subject, in which I am still engaged. In one case the liver had undergone fatty degeneration to a considerable extent, and the veins of the portal canal were considerably congested; in one word, the condition of this organ was such as I have found before in fatal cases of intense jaundice or cholæmia, and therefore showed, thus far, nothing characteristic of yellow fever. In the other case the liver was pale, and had also undergone fatty degeneration, but to a lesser extent. There was no fatty degeneration of the heart or muscles. I will, however, point to the fact, that the occurrence of fatty degeneration of the liver in yellow fever has often been mentioned by other observers. The stomach of both cases had a muddy appearance, with large tracts of extravasations of blood into the tissue of the mucous membrane, as in the former case.

Digitized by Google

Partly for the want of time, and partly from temporary disability of my eyes, I had here to suspend these examinations, hoping, however, to take them up again as soon as possible. But about this time the disease gradually assumed greater dimensions, and, finally, the form of an epidemy. My professional services were more and more engaged, so that no time was left me to spend in the investigations I had commenced, though my practice furnished me more material in the form of excretions and vomits than I could examine. Nevertheless I managed to steal, now and then, a few minutes during office-hours, which I devoted to the microscopical examination of the material I brought home; and it was in these stolen moments, harrassed and disturbed by patients calling on me, that I obtained the most gratifying and interesting results from my labors. As the time at my command was so little, and I was not willing to waste any of it by undertaking too much, I directed my first attention to a thorough examination of the various kinds of vomited matter, though I also examined a specimen of blood and discharges from the bowels.

Although I have already given above an account of the elements found in those first few specimens of black vomit I have examined, I will, nevertheless, join here another description of what I found by my subsequent examinations, which were made with much more care than the first, and, in consequence, may be regarded as more thorough and correct. The white matter, vomited generally during the first part of the disease, and often with much retching and distress on the part of the patient, consists chiefly of a thin mucoid liquid, loaded, more or less, with large, flat epithelial cells, belonging to the scaly or squamous epithelium, and indicating, of course, that *they are not derived from the stomach*, but from the mouth, pharynx or œsophagus. Many of them are floating singly, but the greater part, adhering to each other in their former positions, are still forming small shreds of epithelium of different sizes. Others again are in a state of disintegration; their walls become faint, and at last disappear, setting free the nucleus and granules contained within. It is from this source that the free nuclei and the numberless fine granules floating in the liquid are derived. Very often the liquid is more or less mixed with bile. The majority of specimens I have found entirely free from those minute animalcules, the monads and vibriones, but some were almost alive with them. With the exception of one, of which I shall speak hereafter, these are the chief elements found in the white, sometimes frothy vomit. Some of the ejected liquid consists of pure bile; it is usually of a green color. Having satisfied

Digitized by Google

myself first of its bilious nature by demonstrating the presence of bile pigment by means of nitric acid, I also subjected it to microscopic examination. Very few of the just described elements were present, though the other, still to be spoken of, was found in abundance.

Black vomit, in its various shades, consists of the same elements just described, with the addition of more or less disintegrated blood. If the latter is not present in too great a quantity, it will settle to the bottom, and the liquid separate in a colorless and black portion, but I have met with one specimen—amounting to eight fluid ounces—in which the quantity of blood was so great that it would not settle; a few days afterwards, however, the dense portions rose, which was probably owing to some fat mixed up with it. The relative quantity of the various elements, derived from the disintegrated blood, differs, of course, in different specimens. For the sake of demonstration, therefore, I shall here give a description of a model-specimen. In such a one, we first notice a great number of smaller and larger yellow patches of irregular form, but uniform color; mixed with, or imbedded in these, is seen a granular matter, distributed either in small, irregular, indistinct masses of various sizes or single granules. This granular material, I am now inclined to believe, consists of the disintegrated particles of the organic remains of the red blood corpuscles, and the yellow patches consist of the amorphous hæmatin, set free by the disintegration or decomposition of the former. Hæmatoidin-crystals, in smaller or larger masses, are also found. Derived from the hæmatin, the formation of these takes place only where larger or smaller quantities of blood extravasate from the blood-vessels and then remain at rest, as in apoplectic effusions etc., and for this reason, I think that in black vomit they are also formed after the blood has left the circulation. Next we notice, here and there, some red blood-globules, diminished in diameter, and perfectly colorless; but, sometimes we meet others which, collected in little masses, have still preserved their greenish-yellow tint, and when seen from the side, also their cup-shaped appearance. The number of white corpuscles present is usually greater than that of the former; but these also have diminished in size, and many are in a state of disintegration, or, better said, dissolution, for the outlines of the cell walls become gradually fainter, until they are no more seen. After this, like in the case of the epithelial cells, the nuclei contained within them are set free to float about in the liquid. They can be seen, still adhering together in pairs or triplets, and like the granules resist much longer the process of decomposition than the cell wall. In one specimen of vomit, I also found fæcal

Digitized by Google

matters. Besides the elements just described, others are frequently found. These, however, are derived from without, and are usually the constituents of various kinds of articles which have been introduced into the stomach in the form of food—such, for instance, are fat globules and muscular fibre, derived from broth, also vegetable tissue and microscopic granules of starch, derived, most likely, from the juice of lemons and amylaceous food. In one specimen of black vomit—the greatest in quantity and the richest in blood which I ever saw—I met with numerous bodies with whose nature I am, at present, still unacquainted. Their main body was round, or nearly so, of a greenish hue and refracts the light similar to a patch of fat. Many filaments, resembling tentacles, proceeded from this. In one I perceived a small, round opening like a mouth; very probably these beings were of animal origin. Good glasses and an experienced eye are requisite to recognize all these elements during the different stages of their abnormal transformation.

One organic body yet, present in every specimen of the different vomits which I have thus far examined, remains to be mentioned and described. Its study formed a special part of my examination, and it may possibly yet prove to be the most important and interesting of the whole. This is a microscopic plant, which I have traced from its exceedingly minute germ, through the various stages of development to its full growth. It belongs to the lowest order of the vegetable kingdom, the *fungi*, and its germs or *spores*, when first set free by the parent plant, measure no more than the 1-20000th of an inch in diameter. But in order to fully appreciate the importance which this plant, in its extreme minuteness, may yet assume in the history of the present epidemy, it is requisite to have a correct idea of the history, nature and other peculiar characters and properties of the order to which it belongs, and for this purpose I propose, before proceeding farther, to give a brief account of these.

All vegetables, known at present, are divided in two great series, viz: the *Phœnogamia*, or flowering plants, and the *Cryptogamia*, or flowerless plants. The former are characterized by producing *seeds*, that is, bodies which, at the time when they become detached from the parent plant, contain already the embryo or young plant. This, itself, is produced by the fusion of the *pollen*—minute granules representing the male element of the plant, and contained in the anther of the stamen—with the *ovule* or egg, contained in the ovary of the pistil. The stamens and pistils, together with the various leaves, attached to the flower-stalk, form the flower. The latter—cryptogamia—are characterized by the

Digitized by Google

bearing of *spores*, that is, small bodies of a homogeneous structure, from which, after they leave the parent plant, the new plant is developed. To this series belong the mosses, liverworts, ferns, lichens, fungi, etc. For a long time the male element of these plants was entirely unknown, and the mode of their reproduction remained a mystery to the natural philosopher. Not many years have passed, since, by the aid of the microscope, science has lifted the veil from this subject too, to have another peep into Nature's workshops. The various modes of reproduction in the cryptogamia are so complicated, and their investigation so difficult, that it required the labors of the most eminent scientific men to arrive at the point of our present knowledge. And even now the subject still engages a great deal of attention, because the process of reproduction in the order *Fungi*, is as yet not properly understood, though in some of its higher organized families, peculiar small bodies have been discovered and regarded as the male element, for the reason that they have never been seen to germinate.

All fungi, from the large mushroom down to the moulds, or even the yeast-plant, which consists only of a single cell, are analogous in structure. Their original form is a single cell. This, multiplying by division, grows into a long filament which, in its turn, sends ont branches, The terminal cells of the branches, in many families, dilate and become what is called a "mother cell," that is, one which bears "spores." Now, in the larger kind of fungi, as the mushrooms, myriads of such filaments are arranged side by side, their branches interweaving with each other. These filamentous threads or tubes, formed by a series of cells, constitute the main bulk of the fungus. Upon these, the various forms of spore-bearing branches are seated, always turned toward the free surface; and this holds true in many kinds of moulds as well as in the largest mushrooms. That part, formed by the filaments, is called the *mycelium*; it forms the base or root of the plant, and as this is generally a parasite' is attached to the body upon which it lives. In the smaller kind of fungi, as the various kinds of moulds, mucor etc., the tubes of the mycelium run irregularly in all directions. The diameter of the tubes differs much in different species; in some of them it is as large as 1-2500th of an inch, while in others it is no more than 1-15000th of an inch. In the higher organized forms of fungi, two principal kinds of organs of reproduction have been recognized. The first are tubes, in the interior of which the spores are developed by free cell-formation and subsequently escape through an opening in the wall, or by the absorption of the tube. These tubes have been termed *asci*, and their spores *theca-spores*. The second kind consists of tubes, or rather terminal cells,

Digitized by Google

from the free end of which one or more, sometimes four, processes arise. In the latter, a spore is formed which, subsequently, becomes separated from the tube by a gradual constriction taking place behind it. These cells are called *basidia*, and their spores *acro* or *stylo-spores*.

The fungi, as has already been remarked, belong to the lowest order of plants. There remains no doubt but that their minute spores are constantly suspended in the air, waiting for the special conditions which are essential to their development. This explains their sudden appearance and disappearance upon different substances and in different localities. They live not in water, but generally in damp places or upon damp substances; nevertheless, as I shall show hereafter, I have met with an exception to this rule. Where no other plant can live, fungi will thrive, and though they may quickly disappear in a natural way, it will require tolerably strong chemical agents to destroy them. I have frequently seen them growing upon the surface of alcoholic tinctures of medicinal organic substances. Fungi are ordinarily looked upon as parasites, but indeed they might properly be called "plants of prey," on account of their destructiveness. This includes, especially, the smaller kinds, in the form of moulds, rost, mucor, etc. They destroy our grains, potatoes, grapes, etc., they live upon animals and man, producing various kinds of skin diseases, and according to a certain theory, which, based upon scientific observations, is constantly gaining ground, very probably take an active part in the production of various epidemies. It seems to be a settled fact, that the fungi exert a chemical influence upon their immediate vicinity, and it is in this way, together with depriving the plant upon which they prey of its nourishment, that they prove so fatal to its life. An intense specific odor of the bitter oil of almonds has been noticed to come from the young leaves of prunus avium upon which a certain fungus had settled; and while these, crisped, as they had become by the preying of the parasite upon them, emitted this odor, those free from it remained perfectly inodorous. Here the fungus must have caused a decomposition of the amygdalin contained in the leaf, by a catalytic influence, similar to that of the emulsin. Even upon inorganic substances they seem to extend this influence. for the reduction of the protochloride of mercury by their presence has been observed; the minute globules of the metallic mercury were found adhering to the filaments of the plant. The manner in which fungi carry on their destruction upon plants, is by inserting and pushing their minute filaments into the inter-cellular spaces of the cellular tissue, and even into the interior of the individual organic cells, by penetrating through their walls. This, of course, they effect

Digitized by Google

by absorbing whatever surrounds them, in order to appropriate it to their own growth. There exists a minute fungus—the oidium violaceum which penetrating the walls of the cells of the potato, attacks even the starch granules contained within. Fungi are even found in the interior of the eggs of chickens, and it has been proved by experiment and observation that it is their presence which causes the decomposition of the egg. It is through the pores of the hard shell that they push their way to the interior. Wherever fermentation is taking place, fungi will be found. It is hardly necessary to mention the well known minute yeast plant, always accompanying the fermentation of malt liquors. The turning sour of the milk is also accompanied by the development of a fungus, the exceedingly minute spores of which have already been discovered in the fresh milk. During the various stages of the fermentation the fungus also changes its form. It may be due to this fact that milk often turns sour when introduced into the weak stomach of children or dyspeptic individuals.

There is plenty of material left farther to enlarge upon these minute vegetable beings, but as time presses, I must stop here, because, before returning to my original subject, I have still some remarks to make on another extensive order of minute plants, not less interesting to us than the fungi, as we have myriads of them, forming the ever present green matter in the gutters of our streets, constantly before our eyes. This is the order of *Algæ*. Like the fungi, they are formed only of simple cells. In their lower families, the whole plant consists of a single cell, while in the higher ones they are arranged in series to form filaments, or even in congeries around a common stalk, as in the Batracho sperma. With very few exceptions the algæ live in the water. Some of them are very large; these are, especially, found in the salt water. The marine or salt-water algæ are very numerous and diversified, and many of them very large; their color is frequently violet or reddish. The fresh-water algæ are mostly green, and the arrangement of their cells is very beautiful. The green color is caused by a coloring material, chlorophyl, contained in the form of small granules within the cells. Some of the latter—in the family of the *Zygnema*—are ornamented by green spiral bands of various forms, enclosed within. The filaments of some species of this family are very large, and can be seen with the naked eye; they are generally known among the people by the name of "brook-silk." There are others again which are extremely fine; these we find, especially among the numerous species of *Oscillaria*, a family abundantly found in the gutters of our streets. The individuals of this

Digitized by Google

family are in constant motion, like so many worms. Some of its species are found upon the water of hot springs. Upon the waters of the hot springs of Arkansas, wherever it is running and exposed to the air, a thick, green, slimy mass is found, covering it in great abundance. Last year, when sojourning there as a rheumatic invalid, I examined it under the microscope and found it to consist of an algous plant, whose filaments, arranged in the form of whirls, measured only 1-18000th of an inch in diameter; this is one of the finest algæ which I have ever met. The whole mass consists of two layers, the upper one, of a green color, is formed by the filaments, and the lower, or colorless one, by myriads of minute spores. The lower forms of the algæ consist only of one cell. To these belong the numerous species of *Protococcus*, also abundantly found in our street gutters; the green matter seen upon damp bricks and stones belongs also to these. The algæ stand evidently above the fungi in organization, and the modes of their reproduction are also better known than those of the latter. Many of their spores are provided with small ciliæ by means of which they swim about in the water until they find a place to settle for their development.

Having sufficiently enlarged now upon the general character of these minute vegetables, I return to my original subject, commencing by briefly describing in detail those particular fungi and their germs which I discovered in the various matters vomited in yellow fever. I have already mentioned that among the elements found in the vomit, many large cells belonging to the scaly epithelium, which together with patches composed of them, are seen floating about; there are also free nuclei and a great number of granules derived from disintegrated cells. Independent of these granules, however, there is another kind, which almost always aggregated in masses, are met with throughout the matter. The inexperienced observer might easily take them to be collections of the granules from the epithelium or for masses of dead monads, but they are neither of these. The granules in question have very dark and thick outlines with a very clear and rather refractive centre, and when collected in a large mass assume a greenish tint. Not merely are they found aggregated to form free masses floating in the liquid or upon those patches of epithelium, but they are also observed in smaller groups adhering to the individual epithelial cells. When I first noticed these granular masses, I knew not where they came from, for I was certain that they belonged not to the elements I have above referred to; soon, however, I saw others here and there among them of more or less larger diameters; at the same time there were double ones and also fully

Digitized by Google

grown spores of fungi; and when I, at last, met with the fully developed filaments of the fungus, I remained no longer in doubt about the nature of the dark bordered granules.

It would be out of place to speak in this article of the various stages through which I progressed with my examinations, may it suffice, therefore, when I merely state that I have examined a considerable number of specimens of vomit, especially those containing blood—or, in other words, the black vomit—and being still engaged in the work that the examination of every fresh specimen is attended with the same results as those preceeding it, and confirms the conclusions I have drawn, viz: that those dark bordered granules are the minute germs of a fungus. The individual vomited matters were examined at different times, from day to day, as I was tracing the fungus through all its stages of development. A number of them were ejected by the patient while I was present, and as I always carried clean vials with me in my buggy, I was enabled to collect them freshly and examine them as soon as I returned to my office. The masses of germs were always present. Sometimes the whole mass consisted already of spores twice the diameter of the granules. This I found to be the case in a specimen of vomit, consisting otherwise of pure bile. The smallest germs have a diameter of about 1-20000th of an inch. They then enlarge to be developed into a mature spore which consists of an oval cell about 7-15000th of an inch long and 4-15000th of an inch wide. The filamentous tubes developed from the latter, vary in thickness as is the case in all the different species; but their mean diameter is about 1-5000th of an inch. The sporules originate by free cell formation and within the tubes of the fungus, where they first appear in the form of a fine dust-like matter. They are liberated either by rupture of the tube or by its absorption. When the first takes place masses of them are seen around the tube at the place of rupture; in the latter mode the tube gradually decreases in diameter by the absorption of its walls, until finally nothing is left but the granules, arranged like rows of beads.

Last summer, during the prevalence of cholera in our city, I examined, microscopically, a number of specimens of what has been termed "rice-water discharges" which I had obtained from my private practice and also from patients in the Charity Hospital. Some of the matters were ejected from the stomach, others discharged from the bowels. Besides a great deal of fat, I found in all of them small bodies having the appearance of nuclei, which could not have originated in the stomach or intestines, for they were entirely unlike any of the elements belonging to a mucous membrane; there were no epithelial cells present as is gene-

Digitized by Google

rally believed the rice-water discharges consist of. One of the specimens I kept in the closed vial for subsequent examination. When I looked at it again, about two weeks afterwards, I found several large and thick patches of a fungus upon the surface of the liquid. By microscopical examination it proved to be a beautiful specimen in full germination. But the most remarkable phenomenon was the disappearance of those small bodies, while the fat globules had remained. I have this liquid still bottled up, and it is only a week ago that I examined again some of the fungus, and found it as beautiful as ever. It belongs to a different family than that which I found in the ejected matters of yellow fever. By the researches of some of the most eminent investigators of Germany, the fact has been settled now that the production of cholera depends on the sporules of a certain fungus, suspended in the air and inhaled or swallowed by the people.

I have already mentioned that myriads of germs of minute beings, either animal or vegetable, are constantly suspended in the air that surrounds us, waiting only for those conditions which are essential for their development. To satisfy myself in regard to this theory, and in connection with some studies on miasma in which I was engaged, I instituted some experiments during the summer of 1861. At that time, when the hot weather commenced in the month of May, I perchance examined some cistern water which had been standing in a pitcher about half a day. To my astonishment, I found some large infusoria in it, belonging to the Monadinæ. In freshly distilled water no organic bodies can be discovered by the aid of the microscope; it is only when it becomes stale or stagnant that minute plants and animals appear. In my experiment, in order to destroy every organic germ contained in it, I first boiled the water, and then exposed a tumblerful of it to the air. When I examined some of it a few days afterwards, minute algæ were already found, and after a few more days small infusoria appeared to feed on them. The rain water, as it falls from the clouds and collected in clean cisterns, is undoubtedly the best water for drinking we could get; but if it stands in old rotten cisterns, especially after a long drought, fungi and algæ will appear in it and soon be followed by infusoria. In this condition it is unfit to drink and will generate disease; the very presence of these beings indicates an existing decomposition. The most striking proofs of the constant existence of myriads of germs in the air which surrounds us, we can daily find in the gutters of our streets, which furnish material for the study of microscopic natural history in such an abundance as is not found in

Digitized by Google

many places. In examining the stagnant water which, covered with its green slime, accords so well with the condition of many of our streets, we find it abounding in microscopic beings, both animals and plants. Here we find, among the numerous families of the algæ, the lowly Protococcus, the ever-restless Oscillaria, the beautiful Zygnema, the Desmidiacia and others; and, likewise we find the animal world represented by the smallest monads, measuring only 1-35000th of an inch in diameter, as well as the larger and higher organized families of infusoria; also the Polycystina, and even some Rhisopoda, stretching forth their filamentous feet. The rapidity with which this green slime—consisting mainly of minute algæ—reappears after being washed away and carried to the lake by a heavy rain, must have been noticed, even by the most superficial observer. But more than this, I remember to have noticed, that at certain times it reappears quicker than at others, indicating that the conditions essential to the development of these organic beings are more favorable at one time than at another. On the morning that succeeded the day on which we had that first heavy rain, flooding our city, some time ago, I noticed on Johnson street, not very far above the Old Basin, where I attended a very sick yellow-fever patient, that though the gutter had been washed out by the rain of the previous day, the water left in it was again covered by a thick heavy slime, and right in front of my patient's door. At the same time, my patient had vomited a mucoid liquid, containing, besides a little blood, a number of small patches of an intensely green color. By microscopic examination these patches were found to consist of specimens of Protococcus, one of the lowest forms of the algæ. There is no doubt that the air at that time was pregnant with them or their germs, which the patient had swallowed. Soon after, at my suggestion, my private pupil, Mr. J. Weber—who lives in the same neighborhood, at his father's residence, on Bienville street—exposed some cistern water to the air. In some of it which, after an exposure of two weeks, had been put into a small vial, a fine flocculent matter was found deposited upon the bottom of the latter. By microscopical examination, I found it to consist of the mycelium of a minute fungus, the greater part of the tubes of which were in the state of being absorbed, in order to set the sporules at liberty, as I have heretofore described. By treating it with iodine it turned yellow; this is a sure test of its fungoid nature, for the cellulose of the cell-wall of these plants and that of the lichens does not turn blue by the action of this agent, as does that of the the algæ and other plants. At the same time I also remembered to have met with this growth before

Digitized by Google

in the water of our gutters, but knowing that it is unusual for fungi to live in the water, and taking it for some algæ in a state of decomposition, I had passed it without much notice. The most remarkable coincidence, however, was that it had the closest resemblance to a specimen of the fungi found in some yellow fever vomit, and which I had still preserved. I must mention here that I also examined my own sputa and that of a friend, which had been standing in a vial for a number of days, without discovering anything of a fungoid nature. In my own sputa, forced up from the pharynx, I once found some extremely fine filaments, resembling algæ. The results of all these examinations, I think, may well justify us in looking upon the fungoid sporules, found in the vomited matters, with suspicion, and considering it worth the trouble of examining the subject a little closer. As the condition of the blood, and the secretions of the mucous membranes of the alimentary canal, nose and lungs, are by no means always the same in constitution in different individuals, these fluids may therefore offer a more or less favorable opportunity to the sporules for their development, or even life; it is in this manner that the various degrees of susceptibility, or even entire absence of it, to take the disease, may be explained. The various idiosyncrasies manifested in different individuals will support this view. Acclimatization also may, to a considerable extent, depend on the impression of such minute organic bodies, peculiar to different climes or localities, and even differing at different seasons, to which the system of the new comer becomes gradually accustomed. During the second week of September, when the epidemy had already considerably advanced, in crossing the New Basin, I noticed that the color of the water was unusually green, especially near the border. Taking some of it home for examination, I found it to contain minute algæ, very likely causing the green color.

Thus far I have confined myself to the statement of the simple facts, as they presented themselves to me during the investigations described. May it be permitted me to offer a few remarks in explanation of them; these, of course, will be based on the observations already stated, with others still to be mentioned. Not being naturally inclined to speculative philosophy, but, almost ever guided by direct observation, whenever it is practicable, I shall here also take good care to keep my imagination within reasonable boundaries. But as time is very limited, and as I wish to offer my observations to the profession before the epidemy entirely ceases, in order that some more thorough investigations might still be instituted, I must considerably condense the remarks which I have still to make. At a later period, the subject, in all its relations,

Digitized by Google

may be discussed more in detail. The first question to be asked, then, would be: What bearing have those minute fungoid germs upon the disease which exists among us in the form of an epidemy? Do they find or force an entrance into the circulation to affect the blood, by their presence, in such a manner as to give rise to all those various phenomena which are manifested to us? This question can, as yet, not be answered by direct proofs. As the time, which I could devote to the subject, was so limited, I considered it more advantageous not to distribute it over too large a field, and, therefore, at first directed my attention to a thorough examination of the matters ejected by the mouth. This, however, prevented me not from making use of the opportunity of examining a specimen of blood from a profuse hæmorrhage from the nose, occurring in a well marked case, and which soon after proved to be fatal. The greater part of this blood was not particularly altered, except that the red globules had lost to some extent their shape—which often occurs when blood is exposed to the air—but not their color. Other portions, however, were seen in the field collected also in masses, in which the red globules had entirely parted with their color, and were shriveled in various degrees, from the mere starlike corpuscles to a small group of a few faint granules. Red corpuscles, assuming by shriveling a starlike appearance, are frequently met with under various abnormal conditions, and it is for this reason that I shall not comment on them any farther in this place, but leave it to a later period, as I have much to say on this subject. I will, however, mention here that I can hardly believe those portions of red blood corpuscles in this case, lost so entirely their size, form and color, and dwindled to a few very faint granules, by the mere exposure to a little air, contained in a closed small vial. I have also examined one specimen of fæcal matters, but found nothing particular in it. The specimen of pure bile ejected by the stomach and containing the fungoid germs, considerably advanced in their development, I have already mentioned.

Although, thus far, these sporules have as yet not been seen in the fæces and urine—for the examinations, made to ascertain their presence were too few—there remains no doubt, but that they are swallowed and thus enter the pharynx, œsophagus and stomach. What effect they produce here, or, if, at the same time, they also enter the air passages, farther investigation will have to decide. The disintegrated masses of blood corpuscles, both red and colorless, and the free pigment, found in black vomit, farther, the appearance of jaundice—which is, undoubtedly, of that variety caused by the accumulation of the pigment

Digitized by Google

of the blood in the circulation—usually indicating a fatal issue, all point to the presence of some poison—very likely organic in its nature—in that vital fluid, the blood. And, if we farther consider the destructive influence fungi exert on other organic bodies on which they prey, and of which I have already cited examples, we might well be justified in admiting, at least, the possibility of those minute germs working their way through the wall of an organic cell or capillary vessel, as well as through one belonging to vegetable tissue, and thus, ultimately getting into the circulation. Once arrived there, the process to which I have alluded at the commencement of this article, will take place. The essential point to be observed, in order to elicit the truth would, therefore, be: A thorough microscopical examination of the blood, especially, that of the liver, spleen and brain; farther, another, of the mucous membranes of the whole alimentary canal, bileducts and nose—including the sinuses of the latter; and lastly, one of the tissues of the brain and spinal marrow.

The excessive thirst which manifests itself in this disease, I presume from what I have thus far observed, is mainly due to an irritation of the mucous membrane of the fauces, pharynx, or œsophagus, and not to an inflammation of the stomach, though this organ undoubtedly, often participates to some extent. Among the numerous cases which I have treated, I have found the fauces and pharynx more or less congested whenever I have examined them; in some case I have found it amounting to an active inflammation, involving also the tonsils to a considerable extent. In one case I even found a stricture of the œsophagus, caused by this inflammation. The liquid which the patient swallowed never entered the stomach, but passing to about midway of the tube, was thrown up again. The application of warm flax-seed poultices around the anterior half of the neck relieved it so that the liquids passed again to the stomach. The hiccough so often present and troublesome to the patient, was very great in this case, but it also was ameliorated by the poultice. This is caused, I believe, by the irritation of the œsophageal plexus being reflected, through the medium of the sympathetic, to the phrenic nerve. I have repeatedly examined the condition of the stomach by pressing over that region, but in the majority of cases, during the first stage of the disease, the patient complained of no such pain as would indicate an inflammation of that organ, though, in most cases, there is a sensation of pressure, or even nausea, causing much uneasiness to the patient by the often unsuccessful attempts to vomit. This is, probably, owing to a determination of blood to the liver, and also the

Digitized by Google

pyloric extremity of the stomach; though, it must not be overlooked that it may only be confined to the œsophagus. When black vomit occurs, however, it is obvious that more or less irritation of the mucous membrane must necessarily be produced by the rupture of the blood-vessels, and also by the extravasation of blood into the tissue of that membrane; it is especially in such cases that much tenderness exists in that region. Those stomachs which I examined after death, showed, as I have already stated, no inflammation. The rare presence of cells of the columnar epithelium of the mucous membrane of the stomach in the various vomits, speaks, on the one hand, against the existence of an inflammation there, while the constant occurrence of the cells of the scaly epithelium of the mouth, pharynx and œsophagus in the ejected fluids, on the other hand, rather points to these organs as the seat of inflammation. When I speak of inflammation, I mean an active one, and not a mere determination of blood to the organ, for this of course must take place, or there would be no rupture of vessels, and consequently, no black vomit, I would, however, not deny the possibility of the walls of vessels having lost their tone in such a degree, as to give way without any great pressure from within upon them; yet, I do not think that this occurs very often, as black vomit is usually preceded by gastric uneasiness.

Whatever the poison in the blood may be, its action upon the blood must be intense, and the molecular changes, called forth by its chemical influence, must be unusually great, mounting far above the normal standard. The intensely burning heat of the skin can only be evolved by an extraordinary molecular action in the form of chemical combination or decomposition. This heat is so peculiarly burning to the touch that by it alone one might be able to diagnosticate the disease. I have often felt it still burning in the points of my fingers some time after I had washed my hands and left the patient; and it seems to me that though the temperature of the skin may have fallen, the peculiar burning is still there. In marked cases, perspiration, however profuse it may be, does not lower the pulse or the temperature of the skin. This continuation of the high fever, without any abatement, after perspiration has set in, may be considered as pathognomic of the disease. The temperature in the palm of the hand I have, in the average, found ranging between 102° to 106° F. In a little boy, 10 years of age, I found it still 104½° F after it had commenced to fall, for on the previous day, when I had no thermometer with me, I judged it to have been, at least, 106° F. This extreme chemical action between the constituents of the blood and the poison, can of course, not be going on for any length of time with-

Digitized by Google

out involving important organs like the brain, and thus it is that restlessness, sleeplessness and delirium, in a greater or lesser degree, are produced. The headache which, usually, accompanies the disease, has, in the great majority of cases, its seat in the supra-orbital region; in some cases the principal pain is confined to the temples. Now, in considering the existing irritation of the fauces, pharynx, etc., in a great number of cases, we might well, without much speculation, be justified in looking for it also in the various sinuses of the nose, as the frontal, ethmoidal and sphenoidal: as the latter, especially, extends considerably into the cranium, the pain, produced by an irritation in its lining mucous membrane, might well resemble that seated in the interior of the brain. Whether an irritation in these localities is produced by the presence of minute sporules, must be determined by the direct microscopical examination of the condition of the mucous membrane. In the same manner must the condition of the brain and its membranes be examined, in order to determine the cause of the headache.

The true rationale of the delirium which presents itself in this disease in so many forms, from the faintest cloud, throwing its shadow as it passes, upon the mind, up to the wildest excitement, I am, as yet, unable to give. But it seems to be reasonable to look upon the excessive molecular changes, produced by the chemical action between the constituents of the poison and blood, evolving more heat, or better said, "force," than in a normal condition, as one of its principal causes. The incoherence of ideas, of course, is due to the disturbance, set up by these changes in the mechanism of the brain, causing an irregular, and, perhaps, insufficient nutrition of the organ. When convulsions occur, the irritation has extended to the spinal marrow, and from what I have observed, these cases are, usually, fatal. In those cases in which the delirium remains, after the violence of the fever has passed over, some of the poison must still exist undestroyed in the brain. The delirium at this time, however, has lost its violence; for the portion of blood which survives the combat is insufficient for the supply of the nervous system, and, in consequence, the amount of nervous force, generated by the latter is too small for the supply of the muscles. The patient, therefore, becomes more calm. The mind, however, is still wandering; though now and then, like a faint ray of light, reason returns for a few moments. But the patient, now, is scarcely able to articulate, and in the next moment, perhaps, the delirium, which is now muttering, returns, the vital forces gradually diminish and death sets in. I have seen two cases in which the delirium lasted five days and nights before the vital

Digitized by Google

forces were spent and life departed. When this occurs, the functions of animal life cease to be performed, while those of organic life are still in action; the patient, of course, becomes unconscious with the suspension of the former. The nervous functions in these cases have ceased on the surface of the brain, while in the *tuber annulare* and *medulla oblongata* they are still going on. On the other hand, I have had a number of cases, especially in children from six to twelve years of age, in which I had lost all hope, and yet they recovered. There the cerebral and spinal excitement was really terrible to behold, for while their limbs had to be held down by the parents or friends—in order to protect them from injury—they uttered those heart rending shrieks, generally characteristic of acute inflammation of the brain. The disease is not as fatal to children as to adults, and their recovery, after the violence of the morbid action has passed, is also quicker than the latter; this is due to a greater amounts of formative vitality, inherent to youth.

There is one organ which I believe, is deeply concerned in the elimination of the poison—or rather the substances formed or set free by the conflict of the poison and the blood—and those functions become, for this reason, more or less deranged. This is the liver. From the microscopical examinations of the black vomit and blood, together with other symptoms, we may well infer that the most fatal results of the action of the poison upon the blood is the disintegration of the latter, especially its red corpuscles. By this process, their coloring material, the hæmatin, is set free. Now, it is at present generally admitted as a fact, that the coloring material of the bile, the *Cholepyrrhin*, is derived from the disintegration of the red blood corpuscles, or in other words, from their pigment, the hæmatin. Accordingly, in a state of health, the hæmatin which is set free during a normal disintegration of the red blood corpuscles—most probably while passing through the spleen—is converted into bile-pigment and removed as a body, foreign and injurious to the economy, by one of the functions of the liver. Thus it is, that in organic diseases of this organ, when it is unable to perform the just mentioned function, the hæmatin accumulates within the circulation and gives rise to the most fatal variety of jaundice. I have made very close post-mortem examinations of a number of such cases, in which all tissues and secretions of the body were yellow; and, in such a degree as if the whole body had been soaked in a fluid of that color. The prominent symptoms preceding death in these cases, are delirium, coma etc., similar to those manifested in many fatal cases of yellow fever. It is for this reason that the appearance of jaundice, in the latter disease, is

Digitized by Google

always a bad omen; and more still will this be the case, if it should prove true that in severe cases, the liver undergoes a fatty degeneration.

Judging from what I have said, it must be obvious that the safety of the patient, depends, to a great extent, on the proper performance of the functions of the liver, not only for the removal of the accumulating blood pigment from the circulation, but also for that of the carbon, derived from the broken down organic constituents of the blood. In my own practice, I have in a considerable number of cases, constantly observed a decided improvement of the patient's condition, whenever a bilious stool was obtained. In the case of a little girl, about eight years of age, especially, this fact was very strikingly exhibited. She had been loboring under unusual cerebral and spinal excitement, manifested by the wildest delirium and restlessness, so that she had, constantly, to be watched and held down by her parents. Every remedy adapted to the circumstances, had been employed, and I stood there, towards evening, ready to leave the ship to the mercy of the waves, when as a last resort, I concluded to make an impression on her bowels, for the purpose of revulsion, by an enema of water containing salt, soap and molasses. The next morning, I found the child better; the crisis was over. The enema had been administered before midnight, and followed by an almost pure bilious stool. Perceiving the good effect, the mother on her own account, had repeated it, and it had been followed by another stool, less bilious. At six o'clock in the morning the delirium commenced to abate, and when I paid my visit, I found the little patient asleep. Judging from these observations, the calomel treatment, which, as I have been told, was extensively employed by the physicians of this city during one of the former epidemies, could not have been so irrational, after all, as long as it remained confined within reasonable limits.

In the preceding pages, I have already hinted at the possibility of those minute fungoid sporules working their way through the walls of the capillaries of the mucous membranes into the circulation. If this should really occur, the question would arise, whether they would become developed there into the mature fungus, which would, ultimately, reproduce others. As far as I am able to judge, I can hardly imagine that this would be the case, for rest seems to me essential to such a process. On the contrary, it is more probable that they themselves, either produce their effect by their mere presence as a foreign body, or that they contain certain principles which are inimical to the constitution of the blood of certain individuals. The latter supposition

Digitized by Google

seems to be the more rational, when we consider the different beneficial or pernicious effects upon the animal economy by different principles, contained in other plants. This explanation would also agree with the theory that epidemics of different disease are produced by different species of poisons.

In all such cases as terminate in the recovery of the patient, these sporules must, necessarily become decomposed by the reciprocal action of the blood upon them; and, when, in this manner, they are reduced to a molecular state, they—or rather the elements of which they are composed—may be eliminated by the various glands from the system. Their development into a mature reproducing fungus could only end in the patient's death. It is for this reason that we must not expect to find these bodies in the urine and other secretions, or in any cavity of the body to which the external air has no access. In the pure bilious vomit of which I have spoken, the germs, of course, became mixed with the bile in the stomach.

Having in the foregoing paragraph, almost unconsciously once overstepped the boundaries of direct observation, and trodden the forbidden ground of speculation, I might as well, make a few paces more and put the question: Whence come these minute beings? Where is their fatherland?—It is a difficult matter to answer these questions properly, but, as the disease does not appear epidemically every year, we might well infer that the condition, essential to the development and reproduction of these germs, are not always present. They may, therefore, remain dormant until such conditions present themselves, or they may be imported to us from foreign climes and countries in which they are indigenous and thrive throughout all seasons, and where consequently, the disease appears regularly every year. Such places may be the Western Africa or the West Indian Islands. When I say imported, I refer not as much to the interior of a hull of a ship as to the winds and clouds. The conditions favorable to the development of these germs are, most probably, found in the stagnant water, so abundant in and around our city; also in heavy rains followed by a burning sun, as we have had this year. But independent of this, there may be other meteorological conditions unknown to us. And, finally, as the disease is almost always confined to places where great numbers of men and animals are collected, as in cities, the exhalations of these may also contribute their share. After the germs have once commenced to breed and multiply, they are carried into the air by the vapors arising from the earth, and thus distributed from place to place.

Digitized by Google

Judging from what I hear, the proportionate number of deaths to the number of persons sick during the present epidemy falls considerably below that of former ones; the poison must, therefore, not have been as intense as in former years. It would not be unreasonable to seek the cause of this amelioration in the cutting down of many swamp-trees between the city and Metairie Road, during the late war, by which process the evaporation of the earth was promoted and the winds permitted to circulate more freely around the city. And there remains no doubt that, if the swamp, remaining between the city and the lake, were cleared, its marshes filled up and dried, and finally, a better system of draining the city instituted, the disease might still more be divested of its fatality; for then, while the conditions, favorable to the development of the miasma, would be reduced, the healthy breeze, permitted now to play between the lake and the river, would sweep away the miasmatic germs as fast as they would rise. New Orleans might, then, look again for prosperity.

In concluding my observations on the pathology and cause of the disease, called "yellow fever," I can not forbear from making a few remarks about its treatment. Before commencing them, however, may I be permitted to say that they will be made without any presumption or intention of correcting or instructing others on the subject, as I am conscious that the majority of the physicians of our city have the advantage over me in the experience of former epidemies which occurred before I chose New Orleans for my home. My object is merely to contribute my mite to the cause in simply stating my views and experience on this part of the subject.

Although the miasmatic diseases of the South had formed one of my special subjects of study for nearly seven years, I had never beheld a case of "yellow fever" until I saw those first fatal cases to which I have already referred, occurring the in Charity Hospital, when the disease first made its appearance. All knowledge which, at that time, I possessed of the disease was only theoretical, gathered from medical literature and former conversations with the best physicians of Mobile and New Orleans, and the simple treatment which I adopted, was solely suggested to me by the symptoms of the disease which I closely observed and studied as they appeared. As I had frequently been told by medical friends and others that the doctors had to discover a new treatment for every new epidemy of yellow fever. I never took the trouble of inquiring about the latest, but minded my own business by reasoning and acting as I shall now commence to state.

Digitized by Google

If we accept the view that this disease is produced and kept up by the noxious influence of some poison, introduced into the circulation, then, it will be obvious that any substance which possesses the property of neutralizing its action without, at the same time, affecting the integrity of the blood, would arrest all morbid action and cure the disease. But as, to the extent of my knowledge, such an agent has, as yet, not been discovered, we must call others to our assistance, and the best to suit our purpose are the various excretory glands of the economy. It is through the agency of these organs, that, during a state of health, all noxious materials, constantly formed by the chemical processes going on between the constituents of the blood and the tissues, are removed from the system. The only exit from the circulation is by the route which leads through these glands, and, for this reason, nature even, unassisted by art, makes use of them in ridding the system of morbid materials in the course of various diseases, and in this manner reestablishes the normal condition of the body. But the attempt nature makes to accomplish her purpose are not always successful, and, consequently, art has often to come to her assistance. To assist nature therefore, and not to cross her purposes, must ever be the first rule in the practice of medicine. In the disease under consideration—as our knowledge is insufficient to arrest the morbid processes by neutralizing the poison in the blood—we must assist her in expelling it and its products by promoting the functions of the various secreting and excreting organs of the body; this, however, must be accomplished with great moderation, otherwise much harm may be done by wasting the patient's forces. The most important of these organs are the glands of the skin and intestines, the kidneys and the liver. Now, our *Materia Medica* is rich enough to furnish medical agents in abundance to suit our purposes, though—as they slightly differ among themselves in their individual properties—one may be better adapted to particular cases than another. In the great majority of my own cases, at the time when I was called, the patient generally had—I suppose in obedience to an established custom among the people—already swallowed a big dose of castor oil, and also taken a foot bath; for this reason, it occurred not very often that I had to prescribe the aperient. The action of the castor oil on the bowels, I believe, is produced by a local irritation of the mucous membrane; besides this, its taste is very repulsive, and nauseating to the stomach of most persons; it also leaves, usually, costiveness behind. Therefore, whenever I saw the patient in the very commencement of the disease and before this disagreeable medicine had

Digitized by Google

been administered, I have preferred the saline medicines, as a little Rochelle salts, the liquor of the citrate of magnesia etc., but during its course, in order not to irritate the stomach, I have, in most cases, employed enemata of tepid water, containing various articles, as salt, soap, molasses etc. To promote the secretions of the skin and kidneys, I have only used a combination of liq. potass. cit. with spir. aether. nitr., in the proportion of four fluid-ounces of the former to two fluid drachms of the latter. With this, given in doses according to the age of the patient and more or less frequently as circumstances would require, I have kept the skin in a moist condition, without weakening the patient by profuse perspiration. Sometimes, but not often, when the urine would become high colored and little in quantity, I have used a little bicarbonate of soda.

Next to the promotion of the various secretions, there is another important object to be observed. This is to change the seat of the morbid action from those organs whose integrity is essential to life, to others of less importance, and this is, as every physician knows, accomplished by acting on the principle of derivation through means of the various modes of counter-irritation. This mode of treatment is one of the most safe and effective; it is an ancient one, but having, in the course of time, proved its efficacy in warding off dangers from vital organs, will ever be resorted to. In yellow fever, the most important organs, towards which a determination of blood is usually directed, are the brain, stomach and liver; in severe cases also the kidneys. As far as the treatment of the case is concerned, it matters not whether the pathological condition of the organ was originally produced by the determination of blood itself, or by the poison this fluid carried there; the object in view is to avert the danger of the organ by directing the afflux of blood to another organ where it cannot do much harm. The most suitable for this purpose is the neighboring skin, and the surest means to produce the counter-irritation is the Emplast. Canthar. For my own part, I prefer a comparatively small blister, but well applied, so as to produce a slightly suppurating surface. My object in doing so is not merely to derive the blood from the threatened organ to the skin, but also to obtain a secreting or, rather, excreting surface which, at the same time, may assist in removing other materials, detrimental to the system. By applying some stimulating ointment as the Ung. resinæ, the surface may be kept open for some time, if desired.

In consequence of the disintegration of the blood, caused by the action of the poison, the nutrition of the various tissues becomes deranged

Digitized by Google

and diminished; a proportionate loss of vital forces ensues and the patient sinks. This, of course, can only be prevented by the introduction of nutritive materials into the system, as soon and as well as circumstances will allow, for the formation of new blood. The most suitable articles are those which are the most readily absorbed, and contain the greatest quantity of nutriment in the smallest bulk, such as essence of beef, strong broths, etc. If the stomach can not bear them, they must be introduced by the rectum.

In want, then of a specific agent to arrest the morbid processes going on in the blood, the whole treatment of this disease might be reduced to the following principles, viz: the promotion of the secretions, the derivation of the morbid action from vital organs to others of less importance and the introduction of nutritive principles into the system to replace the losses occurring in the blood.

What I have thus far said, concerning the treatment of yellow fever, is, of course, a mere sketch, to be modified here and there by the good judgment of the physician, in order to suit the particular cases and circumstances. It is the plan after which I have managed and am still managing this disease. If I have saved the life of patients, I am confident, it has not been due to any particular therapeutical knowledge, but more to sound judgment in not making the case worse by the untimely administration of empirical remedies which can only disturb nature in her efforts to counteract and remedy the injuries done; to assist her, rather, by carefully guiding the nursing of the patient, and rendering him comfortable, is here the task of the physician.

When the first cases of yellow fever in the city were reported, I had a number of fever cases under my treatment—the majority of them children of different ages—which characterized themselves by vomiting, great headache, redness of the conjunctiva, etc; they still yielded to quinine, but rather reluctantly. At that time, I regarded these cases as bilious remittent, but now, I think, they were already some of the forerunners of the epidemy, as they were slightly bearing its type. Soon after, however, when the latter became developed, quinine became not only useless, but dangerous, that is, after the disease is once developed. Nevertheless, I have employed it very carefully by injection in a few exceptional cases—such in which there was a great inclination to stupor—and it fully answered my purpose. The only tonic which I have used, after the departure of the fever, was good brandy in very small quantities and well diluted with water. Frequently, I have been tempted to prescribe some tonic in the form of cinchona or quinine, but

Digitized by Google

have always abstained from doing it; and it proved to be just as well, for, in every case, the patient regained his strength without it.

If those fungoid sporules, found in the various vomits should prove to be the cause of the disease, of course, the special remedy would be that agent which possesses the property of destroying them. Unfortunately, however, those substances, known to destroy the sporules, would also be detrimental to the blood. As my time was very limited I was only able to make a few experiments to this purpose. The most effective of the different agents I employed, was iodine which turns the sporules yellow and causes them to shrivel to a certain degree, as soon as it comes in contact with them. It is not improbable that some organic principle possessing the qualities required, may somewhere exist in nature, to be discovered at some future day. Though I would have liked to make some therapeutical experiments in this direction, I have not done so, because I have not considered myself justified to execute them on my private patients. Nevertheless, I shall not stop in making more micro-chemical experiments on the fungi themselves with other reagents.

When I commenced to write the foregoing pages, the epidemy had scarcely commenced to abate, and I entertained the hope of bringing my observations to the notice of the profession soon after. I might have done so too, if any organised scientific body had existed in our city to which I might have stated them, even verbally. Under the circumstances, however, I had to wait for the regular issue of one of our medical journals which appears at a time, when there will be little more left of the disease in question. Still, *late* is always better than *never*; and so it will be with my observations, for, I shall continue them as long as I have material for the purpose; at present, this is not yet exhausted. I have already said, that only by a harmonious and united action of the members of the profession of our city, something more definite, in regard to the true nature of this epidemy, might be elicited, for, it is only by the exchange of the ideas and experience of many that civilization—which means nothing else but the cultivation of the arts and sciences—advances. It is, indeed, much to be regretted—nay, wondered at—that there is no place in a city, like New Orleans, where physicians, without distinction, are found to meet in friendly intercourse, for the purpose of exchanging their ideas and experience to the promotion of science.

I have been told that, a number of years ago, a medical society existed in this city, but that it passed into oblivion; and, not very long

Digitized by Google

ago, I was again told that such a body was still in existence. If the latter does really exist, it must be in a very sickly condition, for I have yet to see the first signs of its life; however, it may labor under consumption, and as this is an incurable disease, the best for it would be to die; the elements of which it is composed, then being set free and in a nascent state, might perhaps unite again to form a more healthy combination. In consideration of these circumstances, may I be allowed to remind the profession that New Orleans ought not to remain behind other cities of the land—many of them much smaller and poorer in material—in the true cultivation of science. Will not some of our most popular and enterprising physicians step forward and lay the corner-stone?

ART.—XII. *Pharmacy of some of the Compounds of Manganese:* By WM. H. LASTER, Chemist and Apothecary, of the Charity Hospital.

THE preparations of manganese at this moment are deservedly popular, heretofore, while their general importance was tacitly admitted, their position as pharmaceutical or medical agents was merely nominal; of the numerous compounds containing this substance, the black oxide, was the only one that engaged the attention of the pharmaceutist, its use even then, was for purely chemical purposes Of the manganese preparations which have been, or are in general use, we may speak of the protoxide, the benoxide, the carbonate, sulphate, iodide and chloride, the manganates and permanganates as most important; the compounds last mentioned, combined with a real intrinsic value, have made them favorites in the manipulation of the pharmaceutist.

In medicinal action, the preparations of the protoxide of manganese, according to MM. Hannen, Petrequin, Du Bussen, and others, much resemble the corresponding ferruginous preparations, they are said to be more rapid in action, and without the disposition to produce the disagreeable tendency of blood to the head sometimes occasioned by iron. M. Millon assures us, that manganese either as an oxide, or carbonate is invariably present in healthy blood, and when this constituent is absent, and in this he is supported by some of the ablest French authorities, a condition is produced exactly resembling true anemia, this condition may be recognized according to the same authorities, by the ferruginous preparations

Digitized by Google

failing to improve the condition, while under those of manganese the symptoms rapidly disappear.

The protoxide of manganese alone exhibits a well marked basic character, as prepared by precipitation, or decomposing the carbonate in a current of hydrogen or steam, it rapidly changes by absorbing oxygen, to the sesquioxide. By exposing oxalate of manganese to a low red heat in a porcelain crucible, it is decomposed into protoxide which remains in the crucible, carbonic oxide and carbonic acid escape. The protoxide prepared in this manner is permanent, in the air, of a greenish gray color if the reduction be performed at a low red heat, and darker if the temperature has been greater, heated in the air the powder acquires a dark color, and if the exposed and high temperature be kept up, it eventually changes to the red oxide.

In sulphuric and hydrochloric acid, the oxide readily dissolves, forming solutions with the character of protoxide of manganese. Medicinally, this substance can be administered in powder, or in pilular form, combined with honey, manna, or other suitable excipient.

The binoxide is the most important of the oxides of manganese, from it all the members of this class are directly, or indirectly made; in the arts, its varied uses makes it an article of considerable importance, its strictly technical uses are too well known to require mention. The binoxide at this time has no medicinal application; in Germany it was formerly used in anemia, chlorosis, and other diseases, characterized by a depraved condition of the blood, but the many impurities present in the best samples of oxide, has been the chief cause of its later total neglect. When desired for internal administration, a pure oxide may be easily prepared, by reducing an alkaline manganate, or per-manganate, by sugar or alcohol. Some weeks since I employed the following formula, which answered every test as to purity of the oxide.

Take of

Per-manganate of potassa	℥ii,	2 oz.
Solution of potassa	℥vi,	6 oz.
Water	℥iv,	4 oz.
Alcohol	℥iss,	1½ oz.

Heat the water to the boiling point, and add the per-manganate, stir until a solution is effected, then add the solution of potassa, and when the dark green solution is at the boiling point, add the alcohol in a fine stream, and stir well. When the addition of the alcohol no longer produces a precipitate, and the liquid is colorless, collect the precipitate upon a linen or cotton strainer, and after the alkaline solution has

Digitized by Google

ceased to pass, pour cold water upon the precipitate, until the washings no longer indicate the presence of saline matter. Press strongly the dark magma, and dry over a vapor bath. Binoxide of manganese perpared in this manner is pure, it is dark-brown in color, pressed between the fingers, it shows no gritty particles, it is tasteless, and inodorous, and soluble in hydrochloric acid, with the evolution of chlorine; heated at a temperature insufficient for its reduction it loses its brown color, and gradually becomes black.

Carbonate of manganese may be easily prepared by precipitating a cold solution of sulphate, or chloride of manganese, previously boiled, with one of carbonate of soda, prepared in the same manner. The precipitate collected upon a cotton strainer, and washed with water previously boiled, and cooled out of contact of the air, until the washings no longer give a precipitate, upon the addition of chloride of barium, in one case, or nitrate of silver in the other.

The carbonate is then dried in a covered crucible, or capsule, at a gentle heat. Carbonate of manganese thus prepared, is pulverulent white, or yellowish white, in small quantity, with a delicate shade of pink when seen in mass; it is readily soluble in acids, with copious effervescence, forming salts of the protoxide, in composition; it is a neutral carbonate, consisting of one equivalent of carbonic acid, and one of protoxide of manganese. Heated in the air, it becomes darker in color, due to the formation of red oxide, and if the heat and exposure continues it is eventually converted into red oxide. At a red heat, it is decomposed quite rapidly, and this change is even partially induced by washing the recently precipitated carbonate with cold water, containing air, in solution. For this reason the water used in washing the carbonate, should be boiled some minutes to expel the air, and cooled in a covered vessel. carbonate of manganese may be dispensed in powder, or pill? in the latter form, the mass may be prepared in the same manner as the pilulæ ferri carbonatis of the present pharmacopœia, and if desired to protect the carbonate from any probable change induced by exposure, it may be preserved in the same manner as the ferri carbonas sacharatum of the former Edinburgh and Dublin pharmacopœias. Under ordinary conditions, the carbonate is not liable to change, some prepared four years since looked as well to-day as the day it was prepared.

Carbonate of manganese has, as a medicine, the same general properties common to all preparations of protoxide of manganese. Internally it has been used in the same diseases in which the preparations of

Digitized by Google

manganese have been found beneficial; externally, it has been employed as a gentle stimulant, astringent, and dessicant, upon abraided surfaces, and for this purpose might well replace the heterogeneous compound, usually sold as calamine.

The two oxides of manganese containing more oxygen than the binoxide, are denominated respectively, manganic and permanganic acid; from their disposition to decompose, comparatively little is known of their nature, but their combination with the alkalies, though still unstable, admit of satisfactory investigation, and much of our knowledge of the acids is inferred from the well known history of their salts.

In the last few years the manganates and permanganates have acquired the greatest popularity as remedial agents, in Great Britain; several London physicians bear testimony to their efficacy, when externally administered in disease, but their chief use are as deoderants; the green and red solutions known as Condy's fluids, are concentrated solutions of manganate and permanganate of potassa, and the chlorinated solution prepared in this country, known as Darby's Prophylactic, is essentially a mixture of hypochloride and permanganate of potassa, with an excess of bicarbonate of potassa; this bicarbonate results from the decomposition of a portion of the carbonate during the time the liquid is being saturated with chlorine. The manganates and permanganates are in a variety of ways useful in the arts. The manganate is largely used in destroying fusil, and other oils, in the rectification of alcohol; the permanganate especially, has many important uses in toxicology, such as the destruction of organic matter, the oxidation or solution of metals, etc. In volumetric analysis it is a beautiful and useful reägent. These are a few of the daily increasing applications of the manganates.

Manganate of potassa can be prepared with facility, and in any quantity, by fusing in an iron crucible, at a red heat, an intimate mixture of 110 parts of binoxide of manganese in fine powder, 51 parts caustic potassa, and 115 parts nitrate of potassa. The potassa should be free from carbonate and silicate, and dissolved together with the nitrate, in the smallest quantity of boiling water, and the solution rapidly evaporated in the crucible, until it becomes pasty in consistence, the binoxide should be added at this moment, and thoroughly incorporated with the saline mass; this can be effected by stirring with an iron rod. After the additions of the binoxide, portions of the mass are liable to be thrown out by the violent disengagement of vapor, and as the heat will hardly admit of constant stirring of the contents of the crucible, it is

Digitized by Google

best to loosely cover the crucible with its lid, so as to admit the aqueous vapor to escape.

When the greenish saline mass is quite dry, the fire should be augmented until the crucible becomes red hot, and this temperature should be maintained for half an hour; during this time the mass in the crucible is in a state of igneous fusion, which insures the oxidation of the binoxide to manganic acid, and its subsequent union with the alkali; a lower temperature would be marked by a portion of the oxide escaping oxidation and a high temperature, would be unnecessary. When the crucible has been kept the required length of time at a red heat, it should be removed, allowed to cool, and the green mass, which is impure manganate of potassa, broken from it by means of a chisel and mallet. The manganate should be dissolved in ten times its weight of water, the solution allowed to stand until the excess of binoxide of manganese, has subsided. The supernatant solution should be decanted from the insoluble matter, and this matter, washed, and after subsidence and decantation, the washings added to the solution first decanted. The liquid should be rapidly evaporated in a porcelain capsule, until a pellicle forms, securely covered by a glass plate, and placed aside to crystallize. This part of the operation is one of great difficulty, and notwithstanding the attention that may be bestowed upon it, the salt frequently separates in granular indistinct crystals. It is essentially important that the crystallization, be effected with as much rapidity, as is consistent with the process. Any lengthened exposure of the solution, produces decomposition of the salt, and deposition of binoxide; in order to avoid this decomposition, especially where large quantities of the salt is prepared, a better method is to evaporate the solution to a syrupy consistence, and granulate the salt as it separates by constant stirring. When the granular mass has separated, the mother liquid is decanted, and the crystal mass dried over the vapor bath. The decanted liquid may be subsequently used to prepare permanganate of potassa.

The crystals of manganate of potassa are dark green in color, acicular, or, as often prepared in granular masses, with a distinct crystalline substance, the perfect crystal is a modification of the right prismatic system, and is isomorphous with the sulphates and chromates. This salt when handled, communicates a smooth, soapy feeling to the hand, especially if moist, and the part receives a brown coloration, due to a deposition of binoxide; the coloration may be removed by hydrochloric acid.

Solution of manganate of potassa. "Condy's Green Fluid:"

Take of—Crude Manganate of Potassa ..... ℥iv.

Water ..... ℥xviij.

Google

Dissolve the manganate in the water, allow the solution to stand twenty-four hours, decant from the insoluble matter, and preserve in a glass stoppered bottle.

Hypochlorite with permanganate of potassa—"Solution similar to Darby's Prophylactic:"

Take of—Carbonate of Potassa..... .....Four ounces, Troy,
Crude Manganate of Potassa.....Five drachms,
Water .....One and a half pints.

Dissolve the carbonate and manganate in the water, allow the solution to stand twenty-four hours, or until the insoluble matter subsides; decant the supernatant solution, and place it in a bottle of the capacity of three pints, that can be accurately closed with a glass stopper; saturate the contained liquid with washed chlorine, by withdrawing the bottle from the delivery tube, and repeatedly agitating it, as long as the yellowish green gas is absorbed. When the saturation is complete, remove the solution, and add to it a solution of carbonate of potassa, two ounces Troy, in half a pint of water. Agitate the solutions, place aside for the insoluble matter to subside, decant and preserve in a well stoppered bottle.

When a current of chlorine is transmitted through a liquid containing an alkaline manganate and excess of carbonated alkali, the green color of the liquid, as it dissolves the chlorine, is gradually changed to red, the complete change into per salt is effected when the liquid no longer absorbs the gas. The action of the chlorine upon the alkali is to generate the usual products, chloride of potassium, hypochlorite and bi-carbonate of potassa; the bi-carbonate itself, towards the end of the process, suffers decomposition, the carbonic acid escaping with effervescence. The solution left in this state a few hours is found to have lost its red color, and otherwise to have changed; if the saturated solution be rendered alkaline by potassa or its carbonate, permanence is conferred upon it, and it may be kept any length of time with visible decomposition. For this reason the addition of carbonate of potassa is made in the above receipt.

The manganate is converted into permanganate, by passing through a solution of the first salt a current of carbonic acid; this acid answers best for the purpose, as the carbonate of potassa formed remains in the dark mother waters, drained from the crystallized permanganate.

The manganate, before saturation with carbonic acid, should be dissolved in ten times its weight of water, and the current of acid should be continued until the solution loses its green color and acquires a

Digitized by Google

bright carmine color. The solution should then be placed aside, for the binoxide of manganese, resulting from the conversion into permanganate, to subside. The supernatant solution, after decantation, shou be rapidly evaporated until a pellicle forms, then placed aside to crystallize. The mother waters, containing the impurities, should be drained from the crystals, and the latter dried upon a porous brick.

In reality, the only difficulty in preparing this salt, is that incident to the preparation of the manganate.

Permanganate of potassa crystallizes in small acicular prisms, of a purple color at first, but gradually becomes brown; they are inodorous, possessed of a sweetish, nauseous taste; they are permanent in the air; like the manganate they communicate a brown stain to the moistened hand, and from the same cause.

CHRONICLE OF MEDICAL SCIENCE.

SURGICAL.

Gonorrhœal Rheumatism.

[Our readers have doubtless been interested in the case of gonorrhœal rheumatism, reported in the last number of the journal, by Dr. Griswold. The subjoined views of one of the leading French authorities, which we should have presented last month, will be found interesting in connection with that report: they are remarks made by Alfred Fournier in a discussion in the *Societé Medicale des Hopitaux de Paris*, which is fully reported in the *Archives Générales de Medecine*, March, 1867.—T. P.]

Fournier believes in the specific nature of blenorrhagic rheumatism.

1st. The blenorrhagia, or more properly the urethral affection, is not only the occasional cause of rheumatism; it is the efficient, direct, necessary cause. 2d. The articular or other complications of blenorrhagia are very different from simple rheumatism, very different as to symptoms, as to localizations, as to evolution, as to possible complications, as to future consequences, and hereditary transmission. etc., whence can be inferred an essential difference between these two maladies.

The following characters distinguish them from each other: 1. The recognized and established cause of an attack of simple rheumatism is the influence of cold, or of a rheumatic diathesis. From personal researches, M. Fournier affirms that cold or moisture are absolutely foreign to the manifestations of blenorrhagic rheumatism: nor has an hereditary or acquired arthritic diathesis any more influence. The cause of these manifestations is the blenorrhagia, and we see patients who, independently of any preceding cause, have rheumatism with each new blenorrhagia.

Digitized by Google

2. The symptoms offer differences not less marked. Blenorrhagic rheumatism is oftenest apyretic, or if there should be fever, it is less intense, less persistent than in simple rheumatism; it is neither accompanied with the profound depression, nor with the sympathetic phenomena which are observed in acute rheumatism. Blenorrhagic rheumatism is quite often mono-articular, or at least it is never generalized over the system to the same extent as simple rheumatism; often it is almost indolent, or quiet in character while a true arthritis is exceedingly painful; it is much more fixed; it does not offer those sudden or rapid *delitescences*, frequent in common rheumatism; resolution takes place with greater difficulty, and often leaves behind a hydrarthrosis which is rare in the last; finally, the blood does not present the buffy coat so constant in acute simple rheumatism.

3. The complications in the great serous membranes, which simple rheumatism develops, are as rare, as exceptional as possible in blenorrhagic rheumatism.

In return, this has a very curious localization, which fails in simple rheumatism; it is ophthalmia, not that which results from the contamination of blenorrhagic pus, but that form known as metastatic, or from internal cause, essentially benign in comparison with the preceding, almost always affecting both eyes, and passing from one to the other with remarkable mobility. In forty-five cases, M. Fournier has observed seventeen in which there was association with articular symptoms.

The evolution, the duration, the terminations of the two maladies equally differ.

As to treatment, while general remedies succeed best in simple acute rheumatism, on the contrary, in blenorrhagic rheumatism, local means, (local blood-letting, blisters, painting with tincture of iodine, absolute immobilization, etc.,) are efficacious.

Finally, recurrences are very frequent in each disease, but under very different conditions. Simple rheumatism recurs under causes the same as those which have produced a first attack: cold moisture, etc., or from constitutional disposition. Blenorrhagic rheumatism, on the contrary, repeats itself only as the result of a new blenorrhagia.

From the establishment of these differences, both numerous and radical, continues M. Fournier, I believe myself authorized to conclude: 1, that a blenorrhagic rheumatism is not a simple rheumatism supervening as an incident in the course of a blenorrhagia; 2, that it has its own individuality, and ought to be distinguished nosologically from simple rheumatism.

If in certain complex and difficult cases there appear to be strong analogies between the two diseases; in its pure and simple forms, blenorrhagic rheumatism has a physiognomy so peculiar that it is recognized at once by the practitioner of a little experience.

After having thus presented the different arguments which demonstrated, in his opinion, the specific character of blenorrhagic rheumatism, he next inquired if the name given it represented the true idea we should have of the disease.

The name *rheumatism*, because consecrated in medical language, should be preserved, and in addition, blenorrhagic rheumatism is a special mode of this complex morbid state called rheumatism. As to the term *blenorrhagic*, when we consider that this term is badly defined, and has been applied to affections very different from each other; and that, on the other hand, rheumatism far from manifesting itself indifferently,

Digitized by Google

in all diseases called blenorrhagic, is never observed but with a urethral blenorrhagic, it would seem essential that the urethra must be involved in order that the rheumatismal manifestations should be produced.

Comparing, then, these accidents with those which simple excitation of the urethra can cause, such as intermittent febrile paroxysms, suppuration in different parts of the body, arthrites even, M. Fournier thought that the rheumatism called *blenorrhagic* could be a manifestation of the same sort, and like them be a reflex phenomenon of urethral irritation. It was less a *blenorrhagic*, than a *urethral* rheumatism; the author proposed the adoption of the name.—*Western Journal of Medicine.*

Paralysis of the Pyloric portion of the Stomach: By W. G. Frost, M. D. Pownal, Me. [Communicated for the Boston Medical and Surgical Journal.]

Mrs. R., æt. 45, of previous good health, except an occasional attack of bilious derangement, was suddenly attacked, on the 14th of May, with urgent dyspnœa. Severe from the first, the symptoms presently became alarming. She obtained relief in an hour, when an emetic was administered, followed by a cathartic, which operated freely. Through the day following she remained nauseated, but on the 16th was better, and a speedy recovery was expected. She then unwisely ate some rich broth, and presently commenced vomiting, which continued in severe paroxysms till the evening of the 18th. On the 19th she was comfortable, but could not retain food or medicine on the stomach. The bowels had not moved since the 15th, but there were no signs of mechanical obstruction. There was no pain, no tympanites; the pulse had not been above 70, full, strong and normal; tongue foul; much thirst; skin dry and hot. "A deathly feeling at the pit of the stomach," was all she complained of. On the 20th the bowels had not been moved, and a drop of croton oil was given and accompanied with cathartic enemata. No movement of the bowels followed. Satisfied that physic had been sufficiently tried, it was dropped, and the case, thoroughly investigated, was diagnosticated as one of paralysis. Acting on this decision, the patient was placed on nux vomica, and the electric current was passed from mouth to anus and repeated in three hours.

May 21st.—The patient passed a comfortable night. One operation from the bowels this morning. A physician saw the patient with me in the afternoon. He confirmed the diagnosis, advised the treatment continued, and made a favorable prognosis. Two more operations of the bowels at night.

22d.—Patient feels somewhat better. Has taken beef-tea and gruel to-day, and retained them well. Repeated the electrical current and continued the nux vomica. One operation to-day.

23d.—Treatment continued. One operation.

24th.—Gave two compound cathartic pills. Repeated galvanic current. Continued nux vomica. Two operations to-day.

25th.—Patient steadily improving. Discontinued the use of the battery and nux vomica. Bowels respond readily to physic.

Throughout the case the pulse was normal, except under the excitement of the battery it rose to 85, and once to 92.—*Boston Medical and Surgical Journal.*

Digitized by Google

The Results of the Treatment of Non-Bony Union after Fracture of the Humerus by the introduction of Ivory Pegs through the Fragments: By JOHN BIRKETT, F.R.C.S., Surgeon to Guy's Hospital.

THE failure of bony union of the fragments after fracture of the shafts of the long bones is a rare occurrence. The causes which interfere to prevent union are occasionally with difficulty discovered, and the best treatment to adopt to excite the deposit of the earthy salts in the yielding tissue intervening between the fragments still remains a subject of debate.

The following cases contrast with each other in many interesting particulars. Occurring in different sexes, nearly at the same age, in the male the repair of a *simple* fracture, unattended by any complication, and treated after the ordinary methods, was arrested by the failure, in the last stage of reparation, to deposit the earthy salts of bone tissue. In the female, a *compound* fracture, complicated with a great extent of local injury of the soft parts around the fragments, and several other severe injuries, the condition of the patient and the secondary consequences of the injury may all be adduced as sufficient causes to explain the fact of non-bony union of the humerus. But, even in this case, the *compound* fracture of the lower jaw united as if under the most ordinary conditions. We may therefore, perhaps, refer the defective repair of the arm-bone to local causes entirely.

The most important constitutional and local circumstances admitted to influence the arrest of the deposit of earthy materials in the repair of long bones are as follows: The constitutional; old age, pregnancy, lactation, syphilis, phthisis, fevers, general cachexia, and scurvy. The local: diseased condition of the broken bone, injury of the soft tissues surrounding the bone, destruction of its nutritious artery, movement of the fragments, the interposition of muscle between them, comminution, and wide separation of the fragments.

It might be suggested that the baneful influence of the lead pigments used by the male patient in his work may have induced deterioration of his general health, but there were no traces of lead-poisoning detected. He could not be regarded as a robust nor very healthy-looking man from his facial aspect; yet his muscular system was fairly developed, and he made no complaint of ill health. The woman, on the other hand, had given birth to a child a few weeks before she received the injury, at which moment she was suckling, and her social position was such as to lead to the deprivation of repose sufficient to recover her usual strength rapidly. Besides the effects of the several severe injuries she had received produced an extraordinary amount of constitutional disturbance, and this might well counteract and exhaust the natural reparative processes. In her case we may fairly attribute the absence of bony union of the humerus to the great amount of local injury, which caused sloughing of the soft tissues, and an exhausting amount of suppuration. Also these conditions necessitated the frequent movement of the member, to prevent which, although a suitable splint was applied, was next to impracticable.

In the operation of connecting the fragments of bone together by means of ivory pegs, some difficulty occurred in both cases on account of the dimensions of the shaft of the humerus, which at the part injured is usually small, and in both these cases appeared to be strikingly so.

Digitized by Google

The operation on the man was attended with the most satisfactory results from the moment of its perfomance. With the woman, on the contrary, much disappointment was occasioned by the failure of the first operation, and for some time even after the second it seemed to be doubtful whether bony consolidation would ever take place. But the successful results eventually acquired plainly demonstrate that one of the qualities of the surgeon in the practice of his art is the exercise of patience.

Case 1.—J. H——, aged twenty-nine, was admitted an in-patient at Guy's Hospital in July, 1861. A painter by trade, he had lived "pretty freely." He did not appear strong, but had generally enjoyed good health. About two months before admission he fell from a height of about twenty feet; and came to the surgery in consequence of having fractured the left humerus at about the middle and lower third. The fragments were adjusted in the usual manner, and maintained *in situ* by means of ordinary splints. He came at intervals, and was carefully attended by the dresser as an out-patient; but at the expiration of two months from the injury bony union had not taken place. In this condition he was admitted. There did not appear to be any indications, either from the state of the patient's general health or of the parts which had been injured, to explain the absence of bony deposit. A splint of leather was carefully made to fit the arm, and to maintain the fragments in a state of perfect repose. Tonics, stimuli, and full diet were given; but after the lapse of about two months and a half the fragments were still ununited by bone.

On the 15th of October I exposed the ends of the fragment by making a vertical incision along the outside of the biceps muscle. I then cut away some fibro-cartilaginous tissue from their divided ends, drilled two holes obliquely, and inserted ivory pegs therein. The fracture had been rather oblique, so that with slight overlapping the pegs retained the fragments in close apposition. This operation was performed about five months after the bone was broken. A splint was adapted to the inside of the arm, and the wound dressed with moist lint. Not the least constitutional disturbance ensued; the wound healed favorably over the ends of the pegs, which had been cut off short—about a quarter of an inch from the humerus; and on the 11th of January, 1862, he left the hospital. At this date (nearly three months since the operation) there was a considerable amount of ossific union, and he was permitted to use the member, as he had done before leaving, with a splint around it for sake of avoiding injury.

In October, 1862, he had acquired complete use of the member, and during the summer had been following his ordinary occupation. The arm, he said, felt a little weaker than the other, and now and then was slightly painful.

This man has siuce frequetly visited the hospital. The last time was in June, 1866. Then the pegs still remained in the bone. The usefulness of the arm was quite equal to that of the other, but at the site of the fracture there still remained a slight bony irregularity.

Briefly, then, there was absence of bony union after five months of the ordinary local and constitutional treatment, and bony deposit was excited by the operation in about two months and a half.

Case 2.—Mrs. F——, aged twenty-eight, was admitted into Guy's

Digitized by Google

Hospital on June 6th, 1863, on account of injuries inflicted by the passage of a heavy four-wheeled wagon over her. Besides contusions over the body generally, the special injuries were *compound* fracture of the lower jaw and *compound* fracture of the left humerus, about its centre. There was a long wound in the middle of the inner side of the arm, through which the fragment of the humerus projected. The bone was not comminuted, and the irregular ends of the fragments were capable of being accurately fitted together, and might have been firmly maintained in apposition by means of a peg or wire suture, an operation which I regretted afterwards that I had not immediately performed. Moist lint was laid on the wound, splints were applied, and the arm kept in the most favorable position. The fragments of the lower jaw were adjusted by means of a wire twisted around the teeth. The patient enjoyed good health. She was suckling a baby, ten weeks old, but she was in a state of healthy nutrition.

Excessive constitutional disturbance was excited by the injuries. She was obliged to give up suckling the infant, and she suffered much with the contusions about the left clavicle and same side of the neck. Not the slightest attempt at repair took place in the wound of the arm, around which erysiplatous inflammation appeared on the fourth day, and extended to the neck and face. Appropriate remedies were administered, consisting of stimulants, ferruginous tonics, and all the food she could take, and in about a week it had subsided altogether. The soft tissues of the arm in the neighborhood of the fracture were, however, the seat of wide-spread inflammation and suppuration, and at one time there seemed to be but slight hopes of saving the member. Nevertheless, by degrees, the wound assumed a healthy aspect, sloughs came away, and in spite of drawbacks from a troublesome cough, diarrhœa, and suppuration about the injured jaw-bone, there was complete cicatrisation in October. At this date there was no attempt at ossific union of the humerus, although rather more than four months had passed away since the injury. The lower jaw had united and become quite strong in about the usual time.

On October 20th I made an incision on the outside of the arm down to the ends of the fragments, separated them, removed some fibro-cartilaginous tissue, and drilled two holes in the most suitable direction to maintain the fragments in apposition by means of ivory pegs. The shaft of the humerus being small, and the fracture having been oblique, the fragments were not so firmly held together as in the case of the male patient. The pegs were cut short, the wound was dressed with lint, and splints were adjusted. She suffered from the effects of the chloroform she had taken during the twenty-four hours following the operation, but otherwise she was very well. No inconvenience further than the above followed, either constitutionally or locally; and at the end of a week a gutta-percha splint was applied along the inside of the arm. On November 6th one of the pegs came away, after remaining in the bone twenty days; the other one could not be felt. The wound healed about the commencement of December; but, although the mobility of the fragments was less than before the pegging, there was not ossific union. During January the ends of the fragments were protected from injury and kept in apposition by means of a leather splint, and the patient was allowed to move the arm as much as possible; but the movements of

Digitized by Google

the joints were much restrained in consequence of the long time the arm had been kept at rest. In February, four months after the operation, there being no bony union, she was discharged from the hospital, in the hope that change of air, diet, and scene might excite more reparative action.

At the end of March she was again admitted with a false joint at the site of fracture, and after careful constitutional and local treatment without advantage, I again, on the 24th of May, drilled holes in the ends of the fragments. and inserted another peg. The wound slowly healed, and she left the hospital the following August. At this time there was still mobility at the site of fracture.

During the next six months, which she passed in the provinces, a few small spiculæ of bone exfoliated through an ulcerated opening in the cicatrix. The arm was more and more used, and ossific union became by degrees complete.

In January, 1865, the movements of the member were only slightly restrained by trifling stiffness of the elbow and shoulder joints; and although, by forcible examination, it was possible to demonstrate imperfect bony union, still the patient was able to use the arm for all ordinary occupations.

In March, 1866, the member was as strong, useful, and nearly as well-shaped as the uninjured one. Bony consolidation was completely established.—*Lancet.*

A Report of Four Cases of Tetanus: By HENRY SUMMERHAYES, B. A. Lond., Late Surgical Registrar to St. Thomas's Hospital, and Surgeon to the Islington Dispensary.

WHEN I was engaged in the work of reviewing my notes of the surgical practice of St. Thomas's Hospital during the years of registrarship, 1864–65, I was led to think that a published history of the instances of tetanus which came under my notice in that period might possibly be turned to some use at a future time by the medical world, and for the following reasons: Each case was noted from the beginning to the end with a fair measure of carefulness, and the report of life symptoms was supplemented by an account of the post-mortem appearances; in each case a tolerably defined course of treatment was pursued, and with a defined aim, the result narrowly watched, and, I believe, faithfully recorded; the cases were taken as they came, and not selected, either in order to illustrate any favorite views of the pathology of the diseases, or with a desire to advocate or decry any particular direction of "therapeutic" efforts; the reports, however unskilfully and incompletely rendered, are yet, it is maintained, altogether free from the blemishes (too prevalent it is to be feared) of partial and unjust coloring in adaptation to previous views; the faults which may be remarked in them are those of inadequate observation, and not of confessed prejudice or of half-unconscious misrepresentation.

I am of opinion that it lies more in the power of the registrars of large hospitals than in that of any other class of medical men to do

Digitized by Google

something for the cause of truth in respect of the history and treatment of diseases analogous seemingly in nature, and certainly in peril, to that which I proceed to illustrate.

CASE 1.—J. B——, a girl aged seven, admitted March 11th 1864, with recent burns of the left shoulder, arm, and adjacent portion of side and back. Whitening and vinegar dressings were immediately applied. She did well until March 19th, when, at half past three P. M., she was found to be unable to put out her tongue, which she had bitten in the morning, her nurse said. The sterno-mastoid and masseter muscles were moderately rigid; her face was natural, and she talked a little; pulse 100; skin warm. In the course of the evening tetanus became fully developed in regular opisthotonic paroxysms; her neck, moreover, was almost constantly thrown back. Four grains of mercury with chalk were administered at once, and a senna draught four hours later; gutta percha bags filled with ice were applied over the spine.

On March 20th the pulse had become more frequent, 126; the paroxysms recurred at shorter intervals (eight or nine minutes), and were more prolonged; during the paroxysms her pupils were observed to dilate. At four P. M. ten minims of tincture of opium were given her, and were ordered to be repeated when required; the ice-bags, which appeared to have produced no effect, were removed. At twelve o'clock the child seemed better, and lay quiet; she had not been convulsed for an hour.

At two o'clock in the afternoon of the 21st she was worse, with a pulse of 160, and sufferiag from almost continual opisthotonos, aggravated now and then by muscular twitchings. Her pupils were contracted, and she had slept for two hours on the previous night. She was said to have become worse in the morning, after the effects of opium had been allowed to subside. At five o'clock the old dressings of whitening and vinegar were removed, and pieces of linen dipped in laudanum-water substituted. At six P. M. she spoke, and took some semi-solid food. An hour afterwards her face was pale and her pupils were contracted; she was evidently worse. At eleven o'clock she had become very much worse; with every inspiration she was slightly convulsed, and every half-hour or so suffered from a violent paroxysm, which lasted some thirty-five seconds, and during which the pulse and breathing ceased altogether, her pupils dilated at the same time, and her skin growing cold. In the intervals her muscular system continued in a state of tonic contraction, which was occasionally intensified into active twitchings. Half an hour later she died, or fifty-seven hours from the first notice of her tetanic symptoms.

Autopsy.—The sinuses of the dura mater contained much blood, and the pia mater was congested. The substance also of the hemispheres was congested, and especially the cortical portions. The veins in the dorsal and lumbar portion of the spinal cord were full of blood. The spinal cord and its membranes seemed perfectly healthy, both to the naked eye and under the microscope. The trachea and bronchi were congested, and contained frothy mucus.

CASE 2.—S. T. D——, a girl aged three, was admitted March 12th, 1864, with recent scalds of the face and portions of the back and chest. Whitening and vinegar dressings were applied at once.

On the morning of the 16th some difficulty of breathing was observed,

Digitized by Google

and at half-past five P. M. she was found in a paroxysm of dyspnœa, with a livid face, set teeth, and convulsive movements of the limbs generally. At nine o'clock ice-bags were applied to the spine; the paroxysms were frequent; her pulse was weak, 160; her face pale, and expressive of great pain.

At noon on the 20th her pulse was too indistinct to be counted; the paroxysms were less violent, but recurred at shorter intervals (every four or six minutes). At four P. M. the child was worse; the head thrown back, and the pupils dilated, the dilatation being greater during a paroxysm; the pulse was nearly imperceptible. At half-past four, nineteen hours from the first observation of the convulsive disease, she died, as an endeavour was being made to inject laudanum into her mouth.

Autopsy.—The brain and its membranes appeared healthy, with the exception of slight and unquestionable congestion of the grey matter The spinal cord seemed healthy, both in mass and in minute structure.

CASE 3.—J. M——, a man aged thirty-four, was admitted April 27th, 1865, with already developed symptoms of tetanus. A month previously he had hurt his left thumb slightly with a splinter of wood, but neither pain nor trace of wound was left. Six days before, he had got his feet wet, and consequently taken cold; in the evening his neck had seemed stiff, and next day, after feeling for a time a distinct stiffness of the jaws, he had become generally convulsed.

At his admission he was perfectly sensible, and answered questions readily except during the agony of his paroxysms, which seized him every four or five minutes, and continued about thirty seconds, with occasionally well-marked opisthotonos. In the intervals he lay quietly on his back, perspiring freely; the jaws were held firmly together, so that he could not show his tongue; the abdominal muscles, too, were found to be tense; the face was natural, and the pulse firm, 84. At four P. M. a purgative enema was administered. An hour afterwards the exhibition of the tincture of Calabar bean was commenced in regular and increasing doses; concurrently opiates were given in large and frequent doses, and this treatment was maintained to the termination of the case.

On the 29th a very decided improvement was remarked. He could open his mouth, so as to show his tongue, which was clean; he suffered only occasionally from a slight spasm when he opened his mouth, or was disturbed in any way; the abdominal muscles remained tense, and he complained of twinges of pain now and then in this situation as well as in the back. The pulse was soft, 100; the pupils were contracted.

On May 1st he was worse, and unable to open his mouth; twitchings and tremblings of the limbs generally and quiet delirium were observed, also paroxysms of slight opisthotonos whenever he attempted to drink. The pupils were small, and the pulse was very weak, 112. Nearly the same symptoms, but more faintly manifested, continued till his death at two o'clock in the morning of May 3d, being twelve days from the commencement of his malady. He had been sedulously fed with beef tea, brandy-and-egg, &c., and had taken in all 666 minims of liq. morphiæ, 240 minims of liq. opii, and 830 minims of tincture of Calabar bean.

Autopsy.—A small cicatrix was discovered over the matrix of the left

Digitized by Google

thumb-nail. The arachnoid membrane was thickened and semi-opaque, and the ventricular and subarachnoid spaces contained more fluid than usual. The lungs were congested and the heart flaccid. There were some apparently recent ecchymoses in the substance of the psoas and pectoral muscles. Mr. Lockhart Clarke, who examined the spinal cord, reported: "Nothing unusual in appearance to the naked eye, except an increase of vascularity in the grey substance and a soft or flaccid state of the cervical enlargement. Disintegrations of some portions of the cord, but to a much less extent and degree than in many other cases examined."

Case 4.—G. C. B——, a man aged twenty-eight, was admitted July 17th, 1865, with a contused foot, upon which, six days previously, a heavy stone had fallen. The last phalanx of the second toe was black, and rather a deep sore was observed on the dorsum of the last two phalanges of the fourth toe, and the nail was absent.

At one P. M. on the 21st he complained of some stiffness about the jaw, and upon examination the masseter muscles were found to be rigid. At two A. M. on the 22d the stiffness of jaw had so much increased that he could not separate his teeth more than a line or two, and he spoke of some stiffness in the back. At ten A. M. ice-bags were applied to the spine. At three P. M. paroxysms of opisthotonos were observed every six or seven minutes; his intellect was clear; his pulse weak and irregular, 96. (A tobacco enema had just been administered, but the greater portion had returned.) At half-past ten P. M. a solution of one grain of morphia was injected into his axilla, and he was asleep in twenty-six minutes. At two A. M. on the 23d he was awake again. Only three paroxysms had seized him since the injection of the morphia; the pupils were contracted; during his sleep his mouth had been observed to be open. At three A. M. the ice-bags were removed; he took some beef-tea, and seemed altogether better. Half a grain of morphia was injected. At six o'clock his pulse was 130, and his pupils were much contracted. Since the last injection he had slept soundly for some time, and had experienced but three or four paroxysms. Another half-grain of morphia was injected. At half-past ten the spasms were observed to be more frequent and prolonged; his pulse was 144, and his pupils were much contracted. He had slept for one hour after the last injection, which was again repeated. At half-past two P. M. the spasms were frequent, the pupils contracted, and the pulse was 120, weak. He was sweating a good deal, and had slept for an hour and a half. The morphia was repeated. At half-past five he had slept for an hour; he could protrude his tongue to the full extent. The spasms continued frequent. He felt better; his pulse was 140, and his pupils were contracted. The morphia was repeated. At eight P. M. the spasms were more frequent; the pulse was 132. The morphia was repeated. At nine o'clock he was sleeping. At twelve the morphia was repeated.

At four o'clock on the morning of the 24th he was worse. He had, however, slept for some time after the last injection. The morphia was repeated, and again at nine A. M. Death took place at half-past ten A. M., or 69½ hours from the first observation of the convulsive disease.

Autopsy.—The brain was congested. The lungs were full of blood, and the bronchial tubes much stained. From Mr. Lockhart Clarke, who examined the spinal cord, I learned that "the cord was rather soft

Digitized by Google

throughout, but the grey substance not particularly red," and that "slight disintegrations of some portions of the cord" was observed.

In conclusion, I should like to remark that it would give me much pleasure to read published accounts of the symptoms and treatment of the cases of tetanus which have occurred during the last few years at the other London hospitals. Independent reports of unselected cases would, I am convinced, be very useful. Either we are quite in the dark as to the treatment of this fearful disease, or it is in its nature completely intractable. Let us hope the latter supposition is not the correct one; and, still more, let us endeavour, if the former supposition be correct, to put an end to our darkness, for it is very terrible. In the cases which I have narrated the drugs given produced their physiological effects, and probably checked or toned down the more vehement manifested of the disease; but there they stopped. The application of ice-bags to the spine had no perceptible result.—*Lancet.*

Sloughing Produced by Local Anæsthesia.

We examined a few days since, in the *Middlesex Hospital*, a young woman whose case is of no little importance in reference to the question of local as against general anæsthesia for operations. Mr. Lawson had diagnosed the existence of an abscess behind the patient's breast, and as the pus was very deep (under the pectoral muscle indeed) the refrigerator was used, paraffine ether being employed. Congelation was rapidly produced, and kept up for a few minutes. The result has been, that a portion of skin, about an inch by three-quarters of an inch, over the upper part of the breast, has sloughed, and its healing will necessarily be attended by an unseemly scar. The patient is a maid-servant; were she unfortunately a lady, the undress of the modern ball-room would be impracticable without revealing such a blemish as might seriously damage her value in the matrimonial market. The case is certainly exceptional; but the circumstance is worth remembering when exposed parts of the body are to be operated upon.—*Lancet.*

Note on Acupressure: By G. W. Callender, Assistant-Surgeon to St. Bartholomew's Hospital.

Acupressure was practised on the 13th of April last by Sir J. Simpson on a patient whose breast had been removed by M. Richet at the Hôtel Dieu. Eight needles were employed, and there was no hœmorrhage after their removal, but the edges of the wound became erysipelatous, rigors followed, and the patient died on April 18th.

On the 17th of April, I amputated a scirrhous breast. The patient, aged sixty-six years, was not a favorable subject for an operation, but the pain in the tumor rendered removal of the growth desirable. Bleeding was stopped by means of four needles, which were removed thirty-

Digitized by Google

six hours after the operation. But the wound presented an erysipelatous blush, with some dusky discoloration, and, beginning rapidly to distend with products of decomposition, had to be speedily opened. Its entire surface was in a state of gangrene, and the woman, sinking with symptoms of blood-poisoning, died on the 23d of April. In this case, the wound, which was of some size, had been closed, contrary to my usual practice, in the hope that speedy union might be obtained, owing to the presumed absence, through the use of the needles, of all local irritation. Failing in this, the patient was poisoned from the rapid disorganisation which ensued, and the absorption of the decomposing materials.

There cannot be any doubt, and the fact has long been admitted, as to the efficiency of a compress, such as the acupressure needle, to arrest bleeding but the practical question which remains to be dealt with is the superiority of this plan of treatment over that of the ligature in favoring early union of wounds, and it is with reference to this point that the two cases referred to are of some interest, and may be of service in the present early stage of inquiry into the subject, so far as showing that in the repair of wounds acupressure has its unfavorable results. Unless the experience of more numerous observations teaches us that the after-process of surgical operations is helped by the use of the needles, they must be regarded as but a clumsy substitute for the ordinary ligature. This is the compass of the question.

The influence of ligatures to hurt the healing of wounds has been of late years unfairly stated. It seems to me, for example, at least doubtful pathology, on the part of the more earnest advocates of acupressure, to compare the parts surrounded by ligatures to so many sloughs. No surgeon can have had the misfortune to open a stump on account of secondary hæmorrhage but must have had an opportunity of observing that no such sloughs exist, but, on the contrary, that the tissues tied off by the ligatures at once adhere to and receive nourishment from the parts adjacent; thus they live, and do not die.—*Lancet.*

Singular Case of Abscess in the situation of Femoral Hernia, containing air: By FREDERIC D. LENTE, M. D., of Cold Spring.

MISS G——, aged 54, unmarried, usually enjoying good health, was attacked suddenly March 22d, 1867, while coughing moderately, with a severe pain or "cramp" in the hypogastrium, which continued to recur in paroxysms, notwithstanding hot fomentations, etc. In my absence, my partner, Dr. Barker, was summoned. Patient informed him that she had been subject to similar attacks, at long intervals, for several years; always produced by the same cause, coughing; so that she had acquired the habit of arresting the action of the diaphragm, as it were, in order to avoid acting painfully on the abdominal viscera. She called it a "strangury pain," as it seemed to her to be connected with the bladder, and to induce a disposition to pass water frequently. There was also some "bearing down" pain. The doctor considered the symptoms to be due to some uterine trouble, and prescribed anodyne enemata per rectum.

Digitized by Google

I was called to patient the next day, March 23d; she had been considerably relieved by the doctor's prescription; but it had occasioned some nausea, and she was averse to continuing opium. She said that, previous to taking the anodynes, she had no nausea and that her bowels had been perfectly regular. Her pulse was over 100, but it is not unusual for it to become considerably accelerated by any excitement, or a trivial indisposition. She has less of the "strangury pain," but complains of a pain across the abdomen at the level of the umbilicus, and extending to the spine, of a boring character; also of a pain along the lower part of the back, especially in attempting to assume a sitting posture. Pulse, skin and countenance good. No distension of abdomen, and no pain whatever on pressure. On thorough examination of the abdomen, however, a tumor is noticed in the right groin, below Poupart's ligament, which patient calls an "enlarged gland," and strenuously insists that it has nothing to do with her ailment, and need not be disturbed. Says it appeared suddenly, and without her knowledge several years ago, and has never given her "the least uneasiness." It is oval; its long diameter parallel with Poupart's ligament, somewhat larger than a pigeon's egg, movable, not painful on very firm pressure, which does not increase at all the pains complained of, or induce nausea. It is very red, as well as the surrounding integument, from the effect, as patient alleges, of the assiduous application of hot fomentations and bags of hot salt. There was no appearance of the neck of a hernia above the ligament, and no pain whatever on pressure in that locality. Feeling uncertain with regard to the diagnosis, I directed a simple evacuative enema—and afterward a continuance of the anodyne, if necessary.

March 31st.—The enema acted "powerfully," much to the patient's disgust, but to my relief; and the bowels have been rather loose since. The tumor was sore for a couple of days after the manipulation, but is less so now. Feels so well to-day that she is up and about the room, and thinks the difficulty is all over.

April 3d.—I had discontinued my visits, but was again summoned. On the evening of the 31st the old pains recurred, and rendered a resort to the anodyne necessary. The pain is still confined to the region of the umbilicus mainly, and extends to the spine, and is much aggravated by any attempt to sit up. Has also some "bearing down" and tenesmus. Bowels move with perfect regularity, and without pain. No nausea, but a loathing of food, so that most of her nourishment is in the form of beef-tea enemata. The tumor is now much inflamed, and the induration has extended to the surrounding areolar tissue, but not above Poupart's ligament. No pain on pressure over any part of the abdomen. Pulse good. Directed cataplasm to tumor, and the anodynes pro re nata.

April 10th.—Nineteenth day.—Has been kept in a tolerable comfortable condition by small anodyne enemata of McMunn's Elixir of Opium. Takes nourishment in very small quantity by the mouth, and has had no nausea. Bowels move daily. The pains have not changed. The inflammation of the tumor has steadily but very slowly increased, and has extended to the distance of several inches around the femoral ring. For some days it has been softening, and fluctuation has been distinct. The latter has now a peculiar feel, different from that of an ordinary abscess in a "ripe" condition. I determined to lay open the abscess, as

Digitized by Google

ulceration was now inevitable; and, at patient's request, put her under ether. Having had the idea of its possible connexion with hernia in my mind, I first punctured with an exploring knife, the withdrawal of which was followed by a slight puff of gas of an odor unmistakable fæcal. To make sure, a probe was introduced, and another puff was sufficient. Before proceeding further, I explained the peculiar character of the case to the family, and the uncertainty of the prognosis, and requested a consultation; and was accordingly met the succeeding day by Dr. Willard Parker. On careful examination of the tumor and review of the symptoms, the doctor was unable to arrive at a positive diagnosis, but advised the only procedure admissable, the laying open and exploration of the abscess. This was done under ether. Immediately upon entering the abscess with the scalpel, there was a gush of fetid gas followed by several ounces of dark, unhealthy pus, but no feculent matter. The finger, introduced into the cavity after turning out some masses of disorganized tissues, could be passed in various directions, but did not enter the abdominal cavity.

May 23d.—Great relief followed the evacuation of the contents of the abscess. Patient continued, however, for several days, to suffer from the pains previously complained of, and was quite feeble until the past two weeks. She is now quite well, and moves about the house without any trouble. The wound has not quite healed

I am not aware of a similar case on record, and am at a loss to account for the presence of the gas in the abscess. Was it a suppurating gland, or was it a hernia? If the latter, the neck ought to have been apparent to the feel above Poupart's ligament, unless, as Dr. Parker suggested, it were one of those rare instances of protrusion through the thyroid foramen. If a hernia, it could only have been of the cæcum, since there never was anything approaching constipation at any time. If a hernia, it must also have been shut off from the abdominal cavity by the severe inflammation and the deposition of plastic matter. But one can scarcely credit the occurrence of an incarcerated or strangulated hernia, with no disturbance of the functions of the abdominal viscera, and no one symptom indeed except the boring pain across the abdomen. Neither was there any appearance of gangrene, about the abscess.—*New York Medical Journal.*

On the Importance of Rest in Severe Abdominal Injuries: By J. R. Greenway, Esq.

It is always a source of pleasure to the surgeon (varying it may be, in degree according to his professional zeal) when he can take the credit of having brought to a successful issue an interesting and dangerous case, and I think he should be equally pleased to admit the principle, however simple, upon which the treatment is based that leads to a successful result. I have therefore selected the following case from among others, which at present I have not time to write out for publication,

Digitized by Google

as not unworthy evidence of the value of that principle so ably enunciated by Professor Hilton in the course of lectures he published some time ago "On Pain and the Therapeutic Influence of Mechanical and Physiological Rest in Accidents and Surgical Diseases."

Henry W., aged 11 years, while playing with other boys, was dared by his playmates to climb over a fence; in attempting to do so, he placed a stick (29 inches long and more than half an inch in diameter) in a position slanting from the side of the fence into the ground, and placing one foot upon a few bricks, and the edge of the other foot upon the upper end of the stick, and taking hold of the fence, the boy managed to raise himself so as to place his arms and chest on the top of it. His playmates then endeavored to thwart his progress by pulling his clothes and the stick, which disturbed the boy's balance, and he eventually fell; in doing so, he came in contact with the upper end of the stick, which had been displaced, and was evidently in some upright position. It tore the trousers, and pierced the abdomen through the external abdominal ring. At the time of my seeing the boy, there was a good deal of blood on his clothes; he was very faint and pale, and vomited during my attendance. The stick had been withdrawn by his father, and was shown to me; about four inches of the end withdrawn was covered with blood, and at the apex presented the appearance of irregular fracture. The wound was ragged, and freely admitted my forefinger to the second joint; the intestines were distinctly felt protruding into the wound from within. There was no further evidence of a decided character as to more extensive internal injury of the peritoneum or intestines; neither could I at first positively say that no blood-vessel had been lacerated that it was important to ligature. I could not detect any foreign substances in the wound, though small portions of the boy's clothing were missing. The hæmorrhage abated, and, suspicious that some of the missing pieces of clothing might be lodged within the abdominal parietes, I simply plugged the wound with fine lint, previously wet with water, and ordering external water dressings, to be changed frequently, and milk diet; the supine position was enjoined, and perfect rest secured so far as was practicable, the urine being drawn off by a catheter for a few days. The patient suffered much from pain and vomiting at times; to relieve these symptoms, a mild opiate with chloric ether was prescribed. On the third day feverish symptoms were troublesome, but evidently attendant on a constitutional state which would have been much aggravated by depletory or depressant measures; these by degrees abated as more liberal food—eggs, etc.—could be taken and retained. On the fourth day the bowels acted naturally. There was excessive purulent discharge from the wound, which circumstances induced me to again explore the wound for any foreign substance that might be acting as an irritant therein, and this time I extracted a piece of the boy's shirt 1½ inch long, in which was embedded a splinter of wood. The wound was dressed daily as before, weak nitric acid lotion being substituted for water; the purulent discharge soon diminished; the wound granulated kindly; the dressing required, which I have spoken of as plugging the wound, was gradually less, and in a short time the parts healed up completely, and the patient returned to the enjoyment of boyish sports with undiminished activity and zeal.—*Medical Times and Gazette.*

Digitized by Google

Hereditary Syphilis in Relation to so-called Strumous Diseases, and in Relation to Acquired Syphilis: By FURNEAUX JORDAN, F. R. C. S., Surgeon to the Queen's Hospital, and Professor of Clinical Surgery at the Queen's College, Birmingham.

THE propositions I now put forward, with intentional brevity, I advance in a spirit of inquiry. They have been arrived at, at the bedside and in the out-patient room. I possess, and I am still observing, illustrative cases which I shall publish hereafter.

I assume that certain now well-known marks of hereditary syphilis are true—namely, the singly notched, or round, or cuspless incisors (also, I believe, early dental caries, especially of front teeth), earthy skin, often with marked pallor, sometimes with more or less of rose color, thick or flat nasal bridge, cicatrices of lips and angles of mouth; history of infantile syphilitic phenomena, with collateral history of miscarriages, and children born dead, or dying soon after birth, and intestinal keratitis from ten, or earlier, to twenty, or later. I have, however, in numerous cases of so-called struma examined parents and grandparents, where living (for in syphilitic families death is more than usually active), and have satisfied myself of the truth of the above signs, as well as of the following conclusions.

It is an apparently complex inquiry to ascertain the existence of syphilis, acquired or hereditary, or both, in a given individual's parents, and the parents of each parent. It is really not so complex as it seems, because the syphilitic history of the grandparents is seen in the parents, and I believe that, under certain circumstances, the syphilitic history of the grandparents may be read in the grandchildren also.

Among the diseases which observation leads me to regard as essentially syphilitic, are caries—of any bone and at any age—and, of course, the results of caries, angular curvature, psoas and lumbar abscesses and others; phthisis in any form or at any age; tubercular diseases everywhere—lungs, brain, glands, mesenteric or other—chronic hydrocephalus, fistula in ano with or without phthisis, enlarged glands, eczema, strumous ophthalmia tarsi, and the great majority of ulcers, on the leg or elsewhere. Rickets and spinal curvatures generally, are probably due to inherited syphilis. Among diseases not usually regarded as strumous, which I have constantly found associated with hereditary syphilis, is the choroido-sclerotitis so often present in myopia.

In a great number of hereditarily syphilitic persons, particularly where the earthy skin is a prominent feature, dyspepsia and headache, together or separately, are marked and often inveterate complications, often interfering with the treatment of associated surgical conditions. I suspect that some forms of dyspepsia and headache often present themselves to the physician. The dyspepsia is often associated with phthisis, the phthisis and the dyspepsia being due to a common cause. It would seem that where the skin is markedly earthy the mucous membranes also appear to deviate from a normal state.

Where so-called strumous diseases are combined, as phthisis and articular caries, or vertebral caries and joint disease, or phthisis and fistula in ano, it will be found that the inherited spyhilitic taint is strongly marked.

I am quite sure that the inflammatory process generally is more prone to occur and to be severe and protracted in hereditarily syphilitic per-

Digitized by Google

sons. I have particularly observed this in cellulitis, pelvic cellulitis, erysipelas, and abscess. Wounds of every kind, from the most trivial to the largest, as in amputations, heal more slowly and with more accidents and complications in hereditary syphilis. The "bad flesh" of popular language has its origin in syphilis.

The diseases to which I now more particularly draw attention as syphilitic diseases are caries and phthisis—diseases which may be considered the most important and the most representative of so-called strumous diseases.

It is admitted that acquired syphilis is capable of giving rise to at least certain kinds of caries and phthisis. Cases, if I have observed them aright, now lead me to ask if the virus transmitted to the second and third generations (or possibly further) is not the sole or almost invariable cause of both.

The cases, which I shall in due time bring forward, appear to me to establish two general rules—(1) that phthisis, caries, enlarged glands, eczema, and probably most other so-called strumous diseases, when they occur in adult life, are due to directly inherited syphilis; and (2) that the same diseases when they occur in infancy are due to the presence of hereditary syphilis in both parents, or to strongly marked hereditary syphilis in one, or to hereditary syphilis and acquired syphilis in one, or to hereditary syphilis in one and acquired syphilis in the other. The diseases due to hereditary syphilis in both parents—and these comprise most of the so-called strumous diseases of children—may be delayed to the ninth or tenth year, and those produced directly by hereditary syphilis may be seen as early as the tenth or ninth. When disease, however, occurs at this intermediate age, it will often be found that there is hereditary disease in one parent and acquired or hereditary and acquired in the other. The more frequently fresh virus is added to the transmitted virus in any of the six proximate parents (if I may use such a term) the more probable will be the manifestation of so-called strumous disease.

Caries is syphilis. The caries of acquired syphilis is mostly superficial; the caries of adults from hereditary syphilis, and also the caries of infancy or early life from syphilis in one of the grandparents on both sides, occurs in the extremity of the diaphysis—namely, on the shaft side of the line of union of the epiphysis with the shaft—and tends to involve the shaft more than the epiphysis. While, however, the anatomical locality is similar in these two classes, the results are widely different. I have already sought to show (Medical Times and Gazette, March, 1867), that in hereditary syphilis the caries occurs in the young adult from 10, or a little earlier, to 30, 40, or later; that the disease is osteitis tending to caries, though it may, and frequently does, terminate in resolution or sclerosis; that it originates in the extremity of the diaphysis; that it is extremely slow; that it frequently does not affect the adjacent joint, or does so at a late period; that the smaller joints —wrist, elbow, shoulder, and ankle—are more frequently involved. Although the hip and knee more frequently escape disease when the extremities of the femur are inflamed, yet occasionally joint symptoms in the knee or hip are the first indications of inflamed bone. All joint diseases depending on inflamed bone are of syphilitic origin. Articular disease, moreover, which does not depend on osteal change, is very rare.

Digitized by Google

Most forms of synovitis, excluding the traumatic, pyæmic, and it may be one or two others, are really cases of osteitis in which the synovial symptoms are the most prominent, and those of osteitis are very slight. This is essentially true of the chronic forms of synovitis of the knee of the adult.

Seeing that the osteitis and caries of the long bones commences in children and adults at the extremity of the shaft of diaphysis (a conclusion based on the examination of cases during life, and of numerous specimens after amputation and after death), why should the disease be limited to the ends of the shaft (of the femur, say), in the adult, and yet give rise to morbus coxæ or knee-joint disease in the child? It would be strange if it were not so. At all ages the epiphyses are small, but in the child they are especially so, and consequently the joint stuctures are closely adjacent to the inflammatory centre; moreover, the cell-changes in the young epiphysis are active, and active physiological changes readily passes into, or participates in, pathological changes.

In the caries (and in the phthisis) of the adult we shall find traces, actually present and historical, of hereditary syphilis. Now, it is a curious circumstance, but not at all at variance with previous statements, that the later in life the disease appears the more marked is the hereditary syphilis. In the caries of children, whether of the short or long bones, and in the joint disease of children, both the parents will show traces of hereditary syphilis (syphilis in the grandparents). The earlier in life the child is affected, the more certainly is the disease hereditary in the parents. Whether syphilis in the more remote parents on both sides may give rise to strumous diseases in the infant, I am unable to say, but I can say that the parents of the child show signs of inherited syphilis.

Phthisis is syphilis. Phthisis from acquired syphilis is not an infrequent disease. In the examination of the subjects of hereditary syphilis, it is common to find that one, and sometimes both parents, died consumptive. The commonest form of phthisis, however, is that of the adult, which is due to directly hereditary syphilis. Phthisis in the child is due to the union of two parents, both being the subjects of hereditary syphilis. In rarer cases (as in caries and other strumous diseases) it possibly happens that the inherited virus, being abundantly present in one parent, is a sufficient cause. It is very common for the hereditary syphilis to be more marked in one parent than the other. It is foreign to my purpose to do more than point to the relation of phthisis to syphilis. I saw, however, so close an association of phthisis with caries and joint disease (the dependence of which on syphilis I could not doubt) that I sought the opportunity of examining and recording, without selection, a large number of cases of phthisis in the physicians' out-patient rooms. Every case, in the presence of an impartial witness, confirmed the view now put forward. In many cases the evidences of hereditary syphilis were strikingly conspicuous; in others, as might justly be expected, they were less so. There is no cachexia which does not vary in the intensity of its manifestations, and the syphilitic is no exception, but there is no cachexia and no disease which presents so unmistakable phenomena as the hereditary syphilitic. It is by no means uncommon, it is well to remember, to see adults of varying ages presenting the most distinct traces of hereditary syphilis, and yet in the possession of perfect

Digitized by Google

health. I believe in such cases the infantile phenomena have been strikingly manifested, and that therefore appropriate mercurial treatment has secured immunity from later disease.

I turn now to the influence of hereditary syphilis on acquired syphilis. The degree (and it may be in some measure the kind) of hereditary syphilis determines the modes of manifestation of the acquired disease. The examination of a large number of cases convinced me, in opposition to early predilection and before I perceived the relation of hereditary syphilis to acquired syphilis, that there is no line of demarcation between the soft and the hard chancre—they merge into each other by imperceptible gradations. The manifestations of constitutional syphilis are also of varying degrees of severity, from single and slight to severe and combined. The chancre will be the softer the greater the intensity of the hereditary taint; with a maximum of hereditary syphils there will be complete absence of induration; the less there is of hereditary syphilis, the greater will be the induration of the chancre; with the least or no hereditary syphilis, induration will be most marked and defined. Constitutional phenomena will probably manifest themselves proportionately to the degree of induration of the primary sore. It is scarcely necessary to say that acquired constitutional syphilis also controls subsequent local syphilis. I prefer to speak of syphilitic sores as I find them—namely, as varying from the perfectly soft to the perfectly hard—rather than speak of one or two kinds of syphilis; such expressions involved merely metaphysical distinctions, while science recognises nothing but the mutual relations and succession of facts.—*Medical Times and Gazette.*

Treatment of Spina Bifida.

Dr. I. L. Carodec, of the Civil Hospital of Brest, in a report to the l'Union Médicale, gives a mode of treatment which has succeeded in radically curing two out of the three cases of spina bifida in which it was tried by him. The author then hints that a choice of cases is necessary to insure the success of the operation, and the following are, in his opinion, the most suitable.

1st. The tumor should be single and the child stout.

2d. The base of the tumor should be pediculated or small.

3d. The skin covering the tumor should be healthy and not ulcerated.

4th. Pressure of the tumor should not produce much pain.

5th. Fluctuation should be indistinctly felt.

Dr. Carodec employs the seemingly dangerous operation of injecting a solution of iodine into the cavity of the tumor: the following synopsis of one of his cases will serve to explain the details.

The patient, a little girl one month old, was found on examination to be suffering from a tumor in the lumbar region, three inches long and two and a-half wide. The skin covering it was reddish, smooth in some places and rough in others; the tumor was translucent, and as he could

Digitized by Google

discover no opaque body in it, he concluded that it contained none of the spinal cord itself. The fissure in the vertebral column was not large and the liquid contained in the tumor was with difficulty forced into the spinal canal; moderate pressure gave the child no pain but produced an uneasiness and tendency to convulsions. The child was well nourished and performed all its functions with ease. Previous to Dr Carodec's visiting the patient, several physicians had been in attendance all of whom agreed that it was a hopeless case. On the 21st of June, Dr C. concluded to operate by means of the iodine injections. The tumor was punctured with a fine trocar and partially emptied of a clear, colorless liquid, closely resembling the cerebro-spinal fluid, and a light compress was then applied. On the 23d, the liquid had again collected, and on the 24th the tumor was again punctured, and about an ounce of liquid evacuated. 3ss of a solution of iodine, five oz. of water to one oz. of the tincture of iodine was then injected into the tumor, and after allowing it to remain three minutes, was pressed out, and the tumor covered by a coating of collodion. The operation appeared to agitate the child very much, as it cried a great deal, and refused all nourishment for five hours. However, the little patient appeared perfectly well on the next day, notwithstanding it had passed a very restless night; and the tumor showed signs of inflammation. On June 30th, the tumor was again punctured on the opposite side to the former punctures, two oz. of turbid serum drawn out, and 3i of the iodine solution injected and allowed to remain three minutes, the tumor was then covered with collodion. During the injection and the time that the solution remained in the tumor, the opening into the spinal canal through the arches of the vertebræ was closed by pressure of the fingers at the base of tumor, as had the iodine come in contact with the spinal cord, it would have rapidly produced a fatal inflammation.

The child was affected very slightly by the operation, for a few hours only. From the 1st, to the 5th of July, the tension of the sac progressively diminished, and the general health of the patient remained satisfactory. A fourth puncture was made on July 6th, and 3ii of a solution of iodine, four oz. of water, to one oz. of tincture of iodine was injected and evacuated as before; from this date up to the 12th, the walls of the sac diminished and began to indurate. On the 12th, a fifth puncture was made. 3iii of the solution of iodine, three oz. of water to one oz. of tincture of iodine, injected as before. A very small quantity of liquid was evacuated, and from this time the tumor became more and more dense and opaque owing to the evident deposit of lymph. On the 21st of July, as there was still a slight fluctuation, another injection was made of 3iii, half iodine and half water. The tumor had become much flattened by the 2d of August, and was about two inches long and one and a half wide; the redness of the skin had also disappeared. The last injection was made on August 2d, after which the opening into the spinal canal closed entirely, and no fluctuation could be found to exist. Four months afterwards the child was perfectly well with the exception of a slight weakness in the legs, and of the average intelligence.

The second case was that of a boy who had a spina bifida, the sac protruding from which was nearly two inches wide, and one and two-fifths in a vertical direction. It was translucent, and was operated upon in the same manner as the first case, the solution gradually increasing

Digitized by Google

in strength and a portion of the liquid evacuated before each injection, the opening into the spinal canal was closed as before by pressure of the finger.

Six punctures and injections were made, in the course of a month, at the end of which time the sac was completely consolidated, no cavity remaining, and several months after the child was perfectly well. The same treatment was followed in a third case for twenty days, and was progressing satisfactorily when the child was carried suddenly off by infantile cholera.—*L'Union Médicale, Fevrier et Mars*, 1867.

Muscular Contractions Simulating Coxalgia. Memoir read before the Imperial Society of Medicine and Surgery. M. PHILLEPEAUX, Lyons.

AFTER some general remarks, in which the rarity of the disease is imputed to mistaken diagnosis on the part of the profession, the author proceeds to sum up as follows the differential diagnostic signs between the simulated and the true coxalgia:

1st. In the contractions, and in general immediately, pain, malposition or rigidity, and shortening appear together; while in coxalgia there is a succession of these phenomena. 2d. The contractions are generally found in nervous, hysterical anæmic persons, and in children and girls about the age of puberty; coxalgia following inflammation of the hip-joint is nearly always met with in rheumatic or scrofulous subjects. 3d. Muscular contractions may arise from compression or irritation of the spinal cord. Coxalgia is never produced by such a cause. 4th. Coxalgia constantly progresses to suppuration, luxation, anchylosis or serous ulceration of the bones; while the simulated disease having reached its maximum, remains stationary, and may either suddenly disappear, or, if improperly treated, exist a long time. 5th. The false coxalgia is accompanied by a very different pain from that experienced in the true disease. In coxalgia the pain exists at the level of the joint, is dull and deep-seated, the patient himself indicates the situation, and the skin covering the joint is not at all tender. In the contractions, the pain exists above the level of the joint, is acute and paroxysmal, extending along the contracted muscles sometimes as far as the malleolus. During the paroxysms the patient cannot bear the slightest pressure of the limb, but during a remission of the paroxysms pressure rather moderates than increases the pain. In coxalgia if we seize the sole of the foot and attempt to rotate the head of the femur in its cavity, pain is produced in the hip, while in the contractions no inconvenience arises from similar manipulations. 6th. In muscular contractions the integument surrounding the anterior part of the joint acquires a reddish tint, which may extend to thigh, leg and even to the trunk. In coxalgia when redness exists, it is darker and deeper at its centre and not as extended. 7th. The heat is limited in the coxalgia and diffused in the contractions; in the true disease it is sensible to a thermometer, in the false it is not. 8th. In coxalgia there is a visible swelling of the tissues surrounding the articulation, which seldom extends to the leg,

Digitized by Google

and which is felt to be due to the tumefaction of the deep-seated tissues; the skin yields to the pressure of the finger and retains the impression. In contractions the swelling appears to extend over the whole thigh, and by palpation we are sensible of the presence of a hard substance, due to the contracted muscles. 9th. In contractions the gluteal muscles preserve their normal condition, while in coxalgia they are always flattened in a marked degree. 10th. In coxalgia the hindrance of the articular functions produces an inclination and twisting of the pelvis; while in contractions, owing to the action of certain muscles, the abnormal position is retained. 11th. In contractions, when the thigh is flexed, the the contracted muscles can be felt; if the thigh be extended, instead of lengthening the leg, as in coxalgia, there is a shortening, due to the elevation of the pelvis. 12th. The intermittence or remittence of the symptoms is not a sure sign of contractions, as it is also observed in the commencement of coxalgia. 13th. In doubtful cases ætherization will cause the deformity and shortening to disappear, and the movements of the joints will become easy and natural, which is not the case in true coxalgia.—*L'Union Médicale, Février*, 1867.

Novel Mode of Treating Inflammation of the Knee-Joint.

Some days after the knee-joint of a man aged thirty-three had been opened by a lacerated wound, he was brought into the London Hospital, where Mr, Little (at the suggestion of his colleague Mr. Maunder) tied the femoral artery to stop acute inflammatory action which had now attacked the limb both within and without the joint. Twenty-three days have elapsed since the operation was performed, and the case has progressed uninterruptedly well. The ligature came away on the 19th day.—*Medical Times and Gazette.*

Ether Spray in Strangulated Hernia.

Dr. John Borelay reports in the British Medical Journal, a case of strangulated hernia, in which reduction was accomplished after the use of ether spray. The pain induced after the most gentle handling of the hernial tumor was so intense, that Dr. B. had to desist from taxis. Having with him Richardson's Ether Spray Apparatus, and thinking it might be useful in lieu of ice, it was determined to invert the patient, apply the ether spray short of freezing the skin, then to attempt the reduction, and if failure was the result, to operate with the knife. The head and shoulders then being supported on the floor by some pillows, and the buttocks raised as much as possible against an inclined plane, extemporized by an inverted bedroom chair, the ether spray was directed in the usual way on the swelling, for about forty seconds, when a minute spot appeared white. The spray was at once removed, and on applying the fingers of the left hand on the swelling for about ten seconds, accompanied by the most trifling pressure, the hernia was reduced, to the great delight and satisfaction of all. The case made a first-rate recovery.—*Medical and Surgical Reporter.*

Digitized by Google

MEDICAL.

Neuralgias of the Liver: From the French of Piorry: By Wm. Mason Turner, B. Ph., M. D. (Formerly of Petersburg, Va.) Philadelphia.

The liver, its ducts and bile-sack receive their nerves chiefly from the plexus and ganglions of the great sympathetic. Scarcely are any of the more delicate branches of the eighth pair, distributed over the hepatic organ. Moreover, the functions of this pair are not in direct affinity with those of sensation, and appreciable movement. These facts explain sufficiently well, how it is that neuralgias of the liver, are very rare, and but little known. We are indeed somewhat powerless, when, in treating this subject, we must discard hypothesis and forced analogies, and have recourse entirely to exact research. Oftentimes we must confess, in tracing the exact limit of the liver, by means of the pleximeter, we find this organ to be acutely painful, and that this aching sensation is provoked neither by pressure, nor by percussion, *without the line which circumscribes* the *gland* or the *biliary ducts*; but almost always, then, the liver is in a hyperæmatous condition, or hypertrophed, or altered in its structure. In some rare cases known, the hepatic organ is truly painful *per se* (as much as the pleximeter will allow us to determine it,)—so much so, that we can not recognize the modification in its form, and volume, which should exist in such a degree of extreme pain. Surely, we have not here a sufficient number to admit, that it makes of itself a *neuralgia*. Was it not better to think, that true lesions exist in the neighboring tissues, which without being accompanied by any marked modifications, in dimension or in configuration, yet which may still provoke these vivid pains? Oftentimes, the liver dragging down and partially sustained *in situ*, becomes the seat of a terrible pain; and sometimes the liver bulging out under the external appendix, where it is more or less composed, becomes painful, likewise. Now we cannot consider such cases, as ascribable to a *nervous* affection of the hepatic organ, it is rather to other facts of a like nature, that we can attribute the pain. Most generally, the pains and aches which we observe in the right hypochondriac region, are connected with some malady of the nerves which are distributed on the lower pair of the ribs. I have determined this fact in a large number of livers. This affection is likewise frequently seen in women where hepatic colics are rare.

I have spoken elsewhere and in detail of the series of accidents which authors have considered as hepatic colics. These phenomena, have often been referred to neuralgias, and these colics have been mistaken for intercostal neuralgia, of which I have already spoken. Moreover, yet, by fault of diagnostic means, sufficiently precise to assign to this or that organ, the fixed seat of pain, some have referred to the liver, this gastralgia, or this enteralgia, due to muscular contractions—or to distension—or even to neuralgic affections. The pleximeter in determining *where* the different viscera are to be found, will not allow us to commit such a grievous error.

Digitized by Google

Solvents for Cholesterine, etc. etc.: By T. H. Buckler, M. D., of Baltimore.

It is believed that chloroform (terchloride of formyl) and succinate of the peroxide of iron will be found superior to any other agents as solvents for cholesterine and cholesteric fat, whether in or out of the living body. Chloroform taken into the stomach for the solution of gall-stones contained in the gall-bladder, and the continued use of succinate of iron to control the fatty or cholesteric diathesis and thereby prevent the formation of other calculi, have been invariably found by the writer trustworthy and successful after an experience of twenty years.

Turpentine and ether combined, as recommended by Durande, of Dijon, are the agents generally used as solvents of gall-stones. In regard to these remedies, we have only to say that a mass of cholesterine immersed in turpentine for three weeks had undergone no sensible loss of weight at the end of that time, and that however soluble this substance may be in ether, chloroform must always be found preferable, since it not only acts as the most rapid solvent, but at the same time produces the anæsthesia so necessary for the relief of the anguish invariably attendant on an acute attack of biliary colic.

In 1848 a mass of cholesterine of the size and shape of an ordinary sized hen's egg was taken from the gall-bladder of a woman who died at the Baltimore Almshouse of some other affection. It was readily separated by gentle traction with the fingers into seventy-five irregularly quadrangular bodies about the size of an ordinary garden pea when dried. These were subjected, in separate vials, to every agent deemed capable of exerting on them a solvent influence. The mass immersed in the various acids, nitromuriatic amongst others, had undergone no sensible loss of weight at the end of several weeks. Finally a mass, weighing several grains, immersed in Edinburgh chloroform, underwent solution in a few minutes, leaving only a friable refuse resembling the cinder of burned paper.

Not long afterwards we were consulted in the case of a married lady, aged thirty-eight, the mother of five children. She was stout and strong, and had always enjoyed good health up to the time of the attack, which was ushered in by paroxysms of pain in the right hypochondriac region, amounting at times to positive anguish. On examination an irregular indurated tumor was felt through the walls of the abdomen, directly over the inferior margin of the liver. For some days this case was believed to be cancer of the liver, but as the paroxysms of pain were followed by jaundice, and the facies of the patient was not that of cancer, a conjecture was formed that the indurated tumor in question might be produced by a distended gall-bladder filled to a greater or less extent with biliary calculi and protruding beyond the inferior margin of the liver. A teaspoonful of chlorform was given by the stomach every hour while the pain lasted, and a teaspoonful only after each meal for a period of five days longer, when the indurated tumor, before described, entirely subsided, affording unmistakable evidence that the gall.stones, none of which were found in the stools, had been entirely dissolved out of the gall-bladder by the use of chloroform. About three months afterwards, this lady, who had enjoyed good health in the interval, was again seized with a paroxysm of anguish in the right hypochondriac region, owing evidently to a newly-formed gall-stone lodged in the

Digitized by Google

trumpet-shaped mouth of the cystic duct. This being again dissolved by the use of chloroform, it was deemed desirable to administer some agent capable of controlling the cholesteric diathesis, and thereby prevent the further formation of biliary calculi. Seeing that the difficulty of dissolving gall-stones by any other agent than chloroform or ether grows out of the fact that cholesterine contains a very small amount of oxygen (from one and a half to two per cent., which is less than that of almost any other known substance), it seemed reasonable to suppose that a highly oxygenized compound would be found the better for at taining the object in view. Accordingly succinic acid and peroxide of iron were selected, on account of the large amount of oxygen contained in both of them. The hydrated succinate of the peroxide of iron was prepared by the eminent chemist Dr. David Stewart, of Baltimore. The lady, whose case we have just stated, made use of this salt as a permanent treatment to control the cholesteric diathesis, and thereby prevent the formation of gall-stones by destroying the raw material of which they are composed. She continued to take it for a period of six months, and resumed it at intervals afterwards in the following dose: ℞.—Hydrated succinate of the peroxide of iron, ʒiss; water, fʒviss—M. S.—A teaspoonful after each meal. She has had no recurrence of the attacks since she commenced the use of this salt, snd enjoys excellent health at the present time. Three other cases treated with chloroform were promptly relieved.

After what has been demonstrated by H. Bence Jones and others in reference to the permeability of tissues, there is every reason to believe that a sufficient quantity of chloroform would pass into the gall-bladder through the intervening parts alone to dissolve out gall-stones, provided its use were continued a sufficient length of time; but when we reflect that chloroform is taken directly from the stomach into the current of the circulation, and that a large portion of it is carried directly to the acini of the liver, where, mingling with the newly-formed bile, it passes with it in to the gall-bladder, it is easily seen that gall-stones may be dissolved with as much certainty as if they had been placed in a bath of chloroform outside of the living body.

The use of succinate of iron may also be extended with advantage of the treatment of leuco-phlegmatic subjects in whom there is a tendency to a redundance of fatty tissue, and when there is reason to suspect that a deposit of the great disorganizer, cholesteric fat, may be forming about the heart and arteries, or in other structures. The popular idea is that a man must be very well because he is very fat, when directly the reverse is often the case, adipose deposit being so frequently a form of structural degeneration of the tissues. It may be useful to persons having a tendency to obesity, and save them the necessity of carrying out the too rigid and often injurious Banting system of diet.

The writer is not aware that this salt has ever been prepared by any one but Dr. Stewart and his brother J. V. D. Stewart, of Baltimore, and it is perhaps important to state that it should be prepared in the hydrous state and kept constantly in the water-bath, for if dried it will never afterwards undergo a proper solution in water, but always form a gritty mixture.—*American Journal of the Medical Sciences.*

Digitized by Google

An Hypertrophied Cervical Gland Treated by Injections of Iodine: By C. H. Marston, M. D., L. R. C. H. Ed., M. R. C. S. E.

The following case may prove interesting as illustrating a new mode of treatment in a somewhat peculiar case, and as suggestive of a similar treatment in some cases which all surgeons at times find troublesome and obstinate.

Miss N., a lady about thirty-five years of age, consulted me in January last in reference to an hypertrophied cervical gland which from its situation and peculiar condition, had become very disagreeable to her. In early life she had suffered from strumous enlargement of the glands under the jaw and in the neck, and still showing a pretty considerable scar, which had some years ago been caused by an incision which had been made into a suppurating lymphatic in the cervical region. The tumor in question had slowly increased in size without any great amount of pain, until at length the integuments covering it had ulcerated, the diseased growth escaping through the opening thus made, while the skin retracted around its base, leaving it for its whole extent, from below upwards, completely denuded. The mass, in form and size closely resembling a large walnut, was rather hard, somewhat lobulated, and apparently infiltrated with plastic matter. The patient was put under the influence of cod-liver oil and iodide of iron, with external applications of iodine to the tumor, under which treatment the general health greatly improved, while, however, no effect was produced upon the local affection, which, from the disfigurement it produced, was a source of no small annoyance. Anxious though she naturally was to be freed from it, she yet had so great an aversion to the use of the knife that she was very unwilling to have it excised. I therefore determined to try the effect of injections of iodine into the substance of the gland, and for this purpose used an ordinary hypodermic syringe filled with the compound tincture of iodine. The needle being carried into the centre of the tumor, the fluid was slowly injected until it exuded from all parts of the surface, a considerable jet being thrown out, by the elasticity of the structure, when the needle was withdrawn. No pain whatever was caused by the operation, nor did any inflammatory action follow. Seen again a week afterwards, the tumor was found to have decreased to almost half its original size. The injection was repeated, and in the course of another fortnight it had diminished to the size of a small bean, while the new skin was fast filling up the opening. A third injection was made, followed in the course of a few days by the complete disappearance of the growth and the perfect healing of the wound, leaving an almost imperceptible scar. No symptoms of iodism occurred during or after the treatment.

I have not yet had occasion to try the same mode of treatment in cases in which the skin remains unbroken, but the result of this case warrants its employment in chronic hypertrophy of the glands which resists ordinary medical treatment and external applications, especially as in such cases there would be a greater objection to excision, and the treatment would be attended with less risk of permanent disfigurement. It may also be a question whether such injections might not be employed in the case of other kinds of tumors. The risk of exciting inflammation might be reduced by using at first a less strong preparation. —*Medical Times and Gazette.*

Digitized by Google

Statistics of Various Modes of Treatment of Cholera in English Hospitals. (Proceedings of Royal Medical and Chirurgical Society, Tuesday, April 23, 1867.)

Dr. George Johnson read a paper "On the Pathology and Treatment of Cholera." The subject was brought before the Society in the hope that a full discussion might establish an agreement as to the nature of cholera and the principle of treatment. The chief conclusions of the author were given, and comment and criticism were invited. 1. The phenomena of cholera result from the operation of a morbid poison. This proposition is very generally admitted. 2. The poison is often swallowed, and enters the system through the alimentary canal; water is frequently the vehicle of the poison. 3. The poison is sometimes taken in with the air through the lungs. 4. In whatever way the poison is received into the system, whether through the lungs or through the alimentary canal, it enters the circulation before it gives rise to its characteristic effects. This is merely the statement of a general law applicable to all poisons. To deny this proposition is to assert that in the case of the cholera poison a general law of physiology is suspended. 5. The symptoms of invasion which have often been observed are *pro tanto* evidence of blood-contamination. 6. What is the pathology of cholera collapse? In what respects does it differ from other forms of collapse? The chief forms of collapse, not choleraic, are these—1st. Collapse from hæmorrhage or from excessive purging. 2d. From nervous shock—*e. g.*, mechanical injury, the pain of perforating ulcer of the stomach, etc. 3d. From such poisons as tobacco, digitalis or antimony. One condition is common to all forms of collapse—*there is a defect of moving blood.* In cases of hæmorrhage and profuse purging there is an absolute deficiency of blood in the vessels; in cases of nervous shock and of poisoning by tobacco, etc., the circulation fails because the heart is weakened. In cholera collapse the blood is arrested in the minute arteries of the lungs. The proofs of this arrest are partly anatomical, partly the harmony of the symptoms during life with the post-mortem appearances, and partly the results of various modes of treatment (venesection, injections into the veins, alcoholic stimulants, etc.), of certain accidents occurring in the human subject (embolism of the pulmonary artery on the admission of atmospheric air into the veins), and certain experiments on animals. It is probable that blood contaminated by the cholera poison is arrested by the contraction of the minute branches of the pulmonary artery, just as blood mixed with a large quantity of atmospheric air is arrested, and as the blood is arrested in the lungs of a dog when a salt of soda has been ejected into the veins. The discharges from the alimentary canal are the means by which the poison and its products are thrown out of the system. The discharges always continue during the recovery from collapse, a proof that they cannot be the cause of collapse. In the worst cases of collapse there is rather an inverse than a direct relation between the degree of collapse and the amount of the discharges. The suppression of bile and urine, and the diminished exhalation of carbonic acid during collapse, are explained by the defective oxidation consequent on the impeded pulmonary circulation. When reaction occurs there is an abundant formation of carbonic acid, bile, and urine, and these products of oxidation, if not freely excreted, may then accumulate in the blood, oppress the nervous system, and thus induce a

Digitized by Google

state of consecutive fever scarcely less perilous than collapse. *The principles of treatment.*—Patients have recovered from cholera in all its stages under the most varied and opposite modes of treatment, and without any treatment. It is therefore obvious that there is a natural process of cure. An impartial inquiry seems to show that those methods of treatment have been most successful which have interfered least with the natural progress of the disease. A routine opiate and repressive plan of treatment is believed to be injurious in all stages. Of cholera it may be said, as of many other acute diseases, that for the cure of most cases that are curable by any means, the *vis medicatrix naturæ* will suffice. Yet there are few cases in which we cannot render some assistance, and not a few in which, by a discreet co-operation with nature, we may turn the scale, and save a life, which without aid would be lost. If we can agree upon a principle of treatment, we may greatly help each other in working out the details.

A paper by Drs. J. Wilson McCloy and Robert Robertson was then read on the "Treatment of Cholera and Epidemic Diarrhœa, with a record of cases." In this paper the authors commence by expressing their belief, that the theory, that the essential phenomena of cholera are referable to a drain of fluid from the blood, has of late received a rude shock. It has been shown to be inconsistent with many of the acknowledged facts of the disease. Another hypothesis attributes the collapse of cholera to a totally different cause. To determine which is right, we must bring both hypotheses face to face with the disease, and ascertain which of them embraces the greater number of its facts, and explains the more extensive range of its phenomena. During the recent epidemic the authors had unusual opportunities of observing the disease in all its phases. Their experience they give to the profession in the hope that it will lead to the establishment of a more rational mode of treatment. Believing that mere statistics are useless, they have given the particulars of a considerable number of cases. Nineteen cases are given in full detail; one hundred cases in a more condensed form, so as to illustrate the disease in all its stages. All the cases recorded were treated in the Liverpool Parish Infirmary. The total number of admissions was 375, and the total number of deaths 161; giving a gross mortality under all modes of treatment of 42·93 per cent. The following table shows mortality under the different modes of treatment:

Mode of Treatment.	No. of Cases.	Mort. per cent.
Astringent and stimulant; camphor and ice-water; hypodermic injections; applications of ice .	91	71·42
Castor oil, with food and stimulants	87	41·37
Castor oil alone	197	30.45

Most of the cases treated by the first mode occurred at the commencement of the epidemic, and amongst an unfavorable class of patients; but the mortality fell immediately on the change of treatment, and at every period of the epidemic the mortality under the astringent and stimulant treatment was much the same. In the paper, tables are given showing the mortality of different ages under the various methods of treatment. After the narrative of cases, the paper concludes with some general remarks. Several thousand cases of diarrhœa came under observation in the different dispensaries connected with the West Derby Union, and in the Liverpool Parish Infirmary—many of them of a severe choleraic

Digitized by Google

type. The treatment adopted was generally evacuant, and consisted in the administration of castor oil, calomel, rhubarb, or magnesia. In every case relief was afforded "pleasantly, quickly, and safely." It was but seldom that more than two or three doses of oil were required. In one of the public dispensaries (Bootle) in the neighborhood of Liverpool many cases of diarrhœa were treated by evacuants, and the testimony of the medical officers is favorable to their employment:—"We certainly had less trouble with the evacuant treatment; our patients seldom gave us a third visit, two doses of castor oil or rhubarb being generally sufficient to cure the disease." The ordinary fluid magnesia was found a safe and active aperient for infants. Diarrhœa patients treated with evacuants from the commencement of the attack were never known to require subsequent removal to hospital. In a large proportion of cholera cases the "premonitory diarrhœa" had been treated by astringents, often for four or five days. In nearly every case of cholera the patients had been previously drugged with opiates and astringents. Post-mortem examinations were made in eight cases of death during collapse. In all the appearances were wonderfully similar. The right side of the heart, the pulmonary artery, and its large divisions were distended with blood; while the ultimate lung tissue was pale and exsanguineous. In one case examined during reaction there was congestion and purulent infiltration of the lung. The tendency to accidents and complications during the reaction stage was very great. Pulmonary engorgement was most common; uræmia much less frequent. The tendency to these complications seemed to bear a relation to the length and intensity of the previous collapse. The tendency was increased by opium and stimulants, and by the too early administration of nutriment. The authors have no hesitation in saying that nitrogenous food invariably did harm during collapse, and indeed during reaction, until by the flow of urine, etc., there was evidence that the respiratory changes were being briskly effected. The following remarks are made upon the remedies employed:—*Castor oil.*—The quantity given varied much. When the natural powers of elimination were active, less sufficed, and vice versa. The object is, not to increase the amount of secretion from the blood, but to assist the evacuation of the bowel. *Turpentine* was considered a valuable adjunct. *Emetics.*—Their value cannot be overestimated. They were very useful in freeing the stomach from the opiates and stimulants which in most of the cases had been given, and they relieve the feeling of oppression. The emetic given was mustard in hot water. *Venesection* was tried as a *dernier resort*, in four cases. The circulation had nearly ceased, and the blood would not flow. *Stimulants.*—Except at the commencement of the epidemic, stimulants were rarely given during collapse. The authors have already said that stimulants in many cases were too early given during reaction. *Ammonia* was found a valuable stimulant. *External heat* was applied with doubtful advantage. Warm baths were not tried. *Chloroform* was often given to relieve cramps; but its free administration appeared to check elimination, and to increase collapse. *Enemata* of water at 120° were very beneficial. Their good effects appeared to be due as much to their purgative action as to their warming or diluting the blood. The record of the cases afford no support to the hypothesis which attributes the collapse of cholera to the drain of the fluid from the blood. There was

Digitized by Google

not that direct relation between collapse and the drain of liquid which this hypothesis implies; often an inverse relation. In many of the fatal cases it was impossible to excite either vomiting or purging after the patients came under treatment; whereas in all the instances of recovery from collapse the discharges continued until reaction was fully established. Death may take place without discharges; recovery never, according to the authors' experience. May not, then, the discharges be looked upon as salutary—as the agents by which nature frees the system from a deadly poison? The authors believe so; and with this belief can no longer retain the hypothesis which demands their arrest.

Mr. French held that the recognition of the value of Dr. Snow's researches as to the origin of cholera was one of the most important points brought out in Dr. Johnson's paper. These labors entitled Dr. Snow to be considered alongside of Jenner as one of the great benefactors of mankind. He thought that too much weight was given to the question of the circulation of the blood through the lungs; for, seeing that the blood was poisoned, it might be better if it did not pass through. He then referred to some experiments on rabbits, in which the heart was found contracting, and yet the lungs were empty. The real test of the amount of poison contained in the system was the character of the attempt at elimination. If there be not too much poison, elimination is sure to go on safely. Prevision he considered, with Dr. R. Reynolds, to be the real test of the existence of a science, and this prevision, he maintained, could be exercised with regard to cholera, for he had made out distinctly enough that cholera never killed people aged fourteen, sixteen, or seventeen. In Broad-street there had been one exception to this rule, but the patient was phthisical.

Dr. A. W. Barclay stated that he had been one of the first to object to Dr. Johnson's views, and therefore, as well as on the ground of experience, claimed the right to speak, although he feared no harmony of views would be attained. He was surprised, and yet not, to find Dr. Johnson's views and arguments remained the same after the strictures he had passed on them. The paper was disappointing in as far as it contained no grounds for the statements therein advanced. As for himself, his own post-mortem examinations completely contradicted those of Dr. Johnson, and he missed from the paper any allusion to the extraordinary views recently advanced by that gentlemen in a discussion with Dr. Owen Rees—viz., that congestion of the lungs was a post-mortem result produced by contraction of the heart after death. When a man was driven to such statements, his arguments must be bad. In reality, both lungs and right side of the heart were gorged. He could not pretend to go through such a perplexing paper, but one point was especially noticeable—namely, Dr. Johnson's talking of a distinct cholera poison in the blood, and his likening this to sugar in the same situation. One might take other poisons; they were the same in the blood and out of it. Blood poisons were altogether different. Thus the poison of small-pox was only produced by the vesicles, and when one wanted to vaccinate a child he only selected the lymph which had been removed from vesicles of a certain age. In neither case would the blood propagate the disease. Thus the poison was different as it existed in the blood and in the excretions. The arrest of the blood in the lungs was simply owing to its treacly condition, not to any irritative action it exercised on the capillaries.

Digitized by Google

Dr. Copland said that much of what he had heard had been familiar to him for thirty-five years, and that the asphyxia of cholera had been well known in 1832, when he had proposed for the disease the name of "asphyxia cholerica" Various points, however, deserved elucidation. There might be a considerable amount of truth in the elimination theory, but in India the reverse was the case among the natives. He considered that elimination by the discharges was not proved, and treatment by purgatives and emetics was not always to be trusted. In all cases selection was important, though both varieties of medicines might be of use. Turpentine and castor oil often did good in collapse, as turpentine often did alone in yellow fever. In cholera he looked upon the discharges as being a serous hæmorrhage. They were indebted to all gentlemen for an expression of their views, however much they might differ from them.

Dr. Sanderson observed that the corner-stone of the physiological basis on which Dr. Johnson's theory of cholera is founded lies in the assumption—he would not use this term disparagingly, but as expressing the peculiarity of Dr. Johnson's method, which was that recommended by the late Archbishop of Dublin—of first stating his conclusion and then reasoning back to it—in the assumption that in cholera the contractile power of the heart is not impaired. Now, at first sight, this view appeared somewhat difficult to reconcile with obvious facts in cholera—the imperceptible radial pulse and the feeble præcordial impulse. But without reference to these *prima facia* objections, he, for one, could not agree to it on other grounds. The ordinary explanation given of collapse was this: that the pallor and shrinking of the features are due to diminution of the quantity and temperature of the circulating blood; and these last are to be referred to the diminished efficiency of the contractions of the heart. Dr. Sanderson was unable to see any reason for doubting the adequacy of the generally received explanation, so far as relates to the condition of the circulation in cholera. Again, he thought that the results of the very numerous and exact experiments made by Virchow and Panum, as to the effects of artificially produced obstruction of the arteries, had an important bearing on the question, as showing that the phenomena of collapse could not be referred to obstruction of the pulmonary circulation. From these experiments it appeared that when the pulmonary artery is suddenly obstructed the pallor which is produced is immediately followed by a convulsive struggle; the animal dies in the same way as in apnœa, but with greater rapidity. On the other hand, when the obstruction is partial, the contractions of the heart become more frequent, the arteries throb, the eyeballs project, and other phenomena are produced which have no resemblance whatever to collapse, and, indeed, are of an opposite nature. Dr. Sanderson confessed himself unable to see why, if the collapse of cholera originates, as supposed by Dr. Johnson, in pulmonary ischæmia, its phenomena should be so entirely different from—nay, opposite to—those accompanying pulmonary obstruction. Finally, Dr. Sanderson expressed the opinion that no weight could be attached to a comparison of the phenomena of asphyxia with those of collapse, for the very theories on which the author of the paper mainly depended were false. The old notion taught by Dr. Alison, of Edinburgh, that engorgement of the capillaries of the lungs is the essential condition of asphyxia, had been long disproved

Digitized by Google

by observation, the contrary having been for many years publicly taught by Professor Sharpey, and, he believed, by other physiologists; and the old theory adopted by Dr. John Reid, that the increased pressure observed before death in suffocated animals is due to obstruction of the systemic capillaries, had been proved to be a mistake by still later experiments.

Mr. Sidley said that, from the records of Middlesex Hospital in 1854, it was evident that there was a distinct relation between the discharges and collapse, although there might be exceptions. Dry cholera had occurred but in one or two cases, and in these the bowels were full. At Middlesex the mortality was forty-three per cent., although treated on many different principles. The conclusion was, that treatment had little influence on collapse. Castor oil was tried, when the mortality amounted to about fifty per cent.

Dr. Waring had seen many cases in India where cholera was endemic, appearing twice a year. His observations on the use of astringents in choleraic diarrhœa were altogether opposed to Dr. Johnson's theory. They were of the most signal benefit in India. He considered that a man would be guilty of great negligence if he failed to make use of them.

Dr. Douglas considered that the poison acted as other irritants, and that the best remedies were opium and carbonate of soda.

Dr. Drysdale asked Dr. Johnson as to the certainty of there being a cholera poison. Most Parisian physicians thought the disease contagious; many of ours, as Dr. Greenhow, did not. Prevention was the most important thing, for the mortality was high in all cases.

Mr. Haviland remarked that in Somersetshire there were two classes, the beer-drinkers and the cider-drinkers; the former had a tendency to loose bowels, and were always sources of anxiety in an epidemic of cholera, being much more liable to depression than the cider-drinkers, whose bowels were more regular.

The discussion, which was not of a very lively character, was almost confined to Dr. Johnson's paper, who, in reply, after thanking the Society for the attention with which his paper had been listened to, expressed his regret that the authors of the second able and interesting paper were not present. Dr. M'Cloy was, unhappily, ill, and in consequence absent on a sea-voyage; and Dr. Robertson had been unable to come up from Liverpool. Mr. French had stated that a large dose of the cholera poison simply destroys life as all other poisons do; but Dr. Johnson remarked that each poison destroys life in its own peculiar way, and the way in which the cholera poison commonly destroys life is by arresting the pulmonary circulation. Mr. French had expressed an opinion that it is better for the patient that morbid blood should be stopped in its course; but obviously an arrest of the circulation exceeding a certain degree must be fatal. Again, Mr. French asserted that elimination is completely effected by the unaided powers of nature. This might be true in most instances; but there were many cases in which the morbid secretions tend to accumulate in the bowel, and in such cases artificial evacuants were useful. Dr. Barclay had expressed surprise that Dr. Johnson continued a method of reasoning to which he (Dr. Barclay) had been the first to object; and Dr. Johnson, in reply, expressed his regret that he had been able to profit so little by Dr.

Digitized by Google

Barclay's illogical teaching. His denial that the morbific influence in cholera is a *poison* was merely a dispute about a word, and therefore unworthy the time and attention of the Society. In reply to Dr. Barclay's expression of astonishment that Dr. Johnson should attach importance to the post-mortem examinations being made as soon as possible after death, Dr. Johnson maintained that of necessity the interval which elapsed between death and the post-mortem examination must exert great influence on the distribution of blood in the heart, lungs and great vessels. Dr. Barclay, admitting that there is obstructed circulation during collapse, explained this by the thickened condition of the blood. Would he then explain why this thickened blood should stagnate in the minute arteries and not in the smaller vessels, the capillaries? The arrest of blood in the minute pulmonary arteries was a great demonstrated fact. Would Dr. Barclay, or any one else, give a more probable explanation of that stoppage than that the muscular walls of the minute arteries contract upon their morbid contents? Dr. Copland, while using some approving expressions with reference to the two papers, doubted whether the intestinal discharges could be considered curative; but inasmuch as recovery is always associated with these discharges, Dr. Johnson argued that they appear to constitute an essential part of the natural process of cure. Dr. Copland considered a combination of castor oil with oil of turpentine very useful; in this he agreed with the authors of the second paper. Dr. Sanderson had expressed his opinion that the defective circulation in cholera was explained by an enfeebled condition of the heart. But surely undoubted facts were opposed to this view; in particular the absence of syncope, and the considerable power of muscular exertion, although the patients be pulseless; the acknowledged inefficacy of alcoholic stimulants to improve the pulse in collapse, and the disproportionate amount of blood in the two sides of the heart. Dr. Johnson did not deny that the muscular power of the heart was diminished during collapse, but this he believed to be a result of the scanty stream of blood passing through the coronary arteries, and obviously this was a secondary result, and not a cause of the defective circulation through the systemic arteries. To Dr. Sanderson's objection that embolism of the pulmonary artery did not resemble in its effects the symptoms of cholera, Dr. Johnson replied that in some respects the symptoms were strikingly similar, but that there could be only certain points of contact between conditions so essentially diverse. Dr. Johnson expressed surprise that Dr. Sanderson should so confidently maintain that all, or nearly all, Dr. John Reid's experiments upon the subject of asphyxia were fallacious in their results. Dr. Reid's experiments were performed with extraordinary care and accuracy, and much more than ordinary care and accuracy would be required to upset his conclusions. Dr. Johnson observed that in Dr. Sanderson's recently delivered Croonian lecture he had related an experiment by which he attempted to prove that the circulation of black unaërated blood through the systemic arteries is not attended with those signs of an impeded transit through the small vessels which Dr. Reid's experiments had been thought to prove. The experiment was this—in a dog poisoned by woorara the heart continued to beat and the blood to circulate for some time after the respiratory movements had ceased. Yet the circulation of black, unaërated blood through the systemic arteries was not attended with any evidence of increased pressure upon

Digitized by Google

the arterial walls consequent upon an impeded passage of black blood through the small vessels. Now, in this experiment, Dr. Sanderson appeared to have overlooked a fact of essential importance—namely, that the woorara poison, as shown by Bernard, annihilates the function of every motor nerve, not merely those which supply the muscles, but also the vaso-motor branches of the sympathetic. Dr. Sanderson, therefore, having paralyzed the muscular walls of the minute arteries, did not, of course, observe those phenomena which result from the contraction of those vessels upon their contents. It was not by such experiments as this that the results of Dr. Reid's labors were to be swept away. Mr. Lilley had stated that, as a rule, he had observed a direct relation between the degree of collapse and the amount of discharges. Upon this point Dr. Johnson remarked it was difficult to make any general statement which was not liable to be misunderstood. In asserting that there was often an inverse ratio between collapse and discharges, he was mainly referring to fatal cases, with respect to many of which the proposition was most unquestionably true; but, with regard to cases of recovery from collapse, he admitted that, as a rule, the discharges were copious in proportion to the severity of the attack. He would put it thus: the severity of the disease depends upon the dose or the intensity of the poison. When a case passes into collapse it is probable that the dose of poison has been greater than when it stops short of collapse, and before recovery can take place a greater drain of liquid will have been required to eliminate the poison and its products than in a milder case where the dose of poison had been insufficient to arrest or greatly retard the pulmonary circulation. Dr. Johnson disputed Dr. Waring's statement that the opiate treatment in the diarrhœa stage tended to prevent collapse. His own experience had convinced him that an indiscriminate opiate treatment of choleraic diarrhœa was unsuccessful and dangerous. The tendency of the opium was to retain within the system a self-multiplying morbid poison, by which the diarrhœa was prolonged, or even collapse induced. The experience of the military authorities in Malta, as recorded in the recently published Medical Blue Book, was entirely in accordance with his own upon this point. Those who treat diarrhœa with opiates take the credit of a cure when the disease stops short of collapse; but when collapse follows, as he had seen it, on the abrupt arrest of a diarrhœa by opium, ought not the opium to have the discredit of that unfavorable result. This was a most serious practical question. In reply to Dr. Drysdale's inquiry whether there is a cholera virus, Dr. Johnson said that if any one present doubted the existence of a cholera virus, he would not be likely to be convinced by any arguments that he (Dr. Johnson) could adduce; and at that late hour he would not incur the risk of wearying those who had so patiently listened to him by an attempt to convince such skeptics, but, thanking the Society for the kind attention he had received, would sit down. —*Medical Times and Gazette.*

Diagnosis of Fatty Enlargement of the Liver.

THIS form of hepatic enlargement has the following clinical characters:—

1. The enlargement may be considerable, but is rarely so great as that often attained by the waxy liver. It is not often that the anterior

Digitized by Google

or lower border reaches down beyond the umbilicus, or even so far. Occasionally, however, the vertical hepatic dulness is increased out of proportion to the actual amount of enlargement, in consequence of the organ being so soft and flabby that it folds upon itself, so that the anterior margin is depressed, and a larger portion of the organ is brought into apposition with the abdominal parietes.

2. As in waxy disease, the enlargement is tolerably uniform in every direction and there are no circumscribed bulgings, so that the natural form of the liver is but little altered. There is no expansion or bulging of the lower ribs.

3. The enlarged liver is less resistant to pressure and of softer consistence than the waxy disease. Owing to its flabbiness it is easily pushed aside by the finger, and when the abdominal parietes are thin, its soft, doughy consistence may be readily appreciated.

4. The outer surface is smooth and the lower margin rounded. Although fatty degeneration may coexist with cirrhosis, the liver under such circumstances is reduced in size. A lobulated enlarged fatty liver is rarely, if ever, met with.

5. There is no ascites or enlargement of the superficial veins of the abdomen. A large accumulation of oil in the liver so far interferes with the circulation as to lead to an anæmic condition of the liver itself, but not to such an extent as to cause ascites.

6. Even in extreme cases bile continues to be secreted, and its excretion is not arrested or impeded. Jaundice, therefore, is not a symptom of the fatty liver.

7. The same remark applies to pain. Fatty enlargement of the liver is painless from first to last. The organ can be freely manipulated with impunity, although in extreme cases the patient may complain of a feeling of weight or distension in the abdomen, increased by turning on the left side.

8. From the absence of symptoms few opportunities are afforded of watching the growth of fatty enlargement of the liver, but this is always slow and imperceptible.

9. The constitutional symptoms of fatty liver are few and not characteristic, and those which have been noted are often due, for the most part, to coëxisting fatty degeneration of other organs, and more especially of the heart. General debility and want of tone in the nervous and vascular systems are amongst the most prominent symptoms. The patient is easily tired, and bears depletion or the inroads of acute disease badly. The late Dr. Addison described a condition of the integuments which he believed to be pathognomonic of fatty degeneration of the liver "To the eye," he says "the skin presents a bloodless, almost semi-transparent and waxy appearance. When this is associated with mere pallor it is not very unlike fine polished ivory, but when combined with a more sallow tinge, as is now and then the case, it more resembles a common wax model. To the touch, the general integuments, for the most part, feel smooth, loose, and often flabby; whilst in some well-marked cases all its natural asperities would appear to be obliterated, and it becomes so exquisitely smooth and soft as to convey a sensation resembling that experienced on handling a piece of the softest satin." These appearances are chiefly met with in females, and although they are far from being invariably present, yet in most cases the countenance and general integuments are more or less pasty and anæmic, and some-

Digitized by Google

times the skin appears greasy from increased action of the sebaceous follicles. Patients with fatty liver also suffer often from dyspeptic symptoms, such as flatulence, hypochondriasis, irregular action of the bowels—usually constipation, but not unfrequently profuse diarrhœa from slight causes.

10. Enlargement of the spleen is rarely present. The portal circulation is not obstructed to such an extent as to lead to enlargement of this organ from stasis of blood; and the spleen is not liable, as in waxy disease, to a deposit of the same material as that which causes the liver to enlarge.

There are, however, certain other organs which are apt to undergo fatty degeneration as well as the liver, and the disease in each of these organs has symptoms of its own, which, when present, will throw light on the nature of the hepatic enlargement. Thus—

11. When there is fatty degeneration of the heart, in addition to the signs already enumerated, there are often—

a. A very feeble, or even inappreciable, cardiac impulse.

b. Very faint, or even inaudible, cardiac sounds.

c. A very slow, or a quick, feeble, and irregular radial pulse.

d. Attacks of vertigo, syncope, or pseudo-apoplexy.

e. Dyspnœa on slight exertion, and a feeling of sinking at the epigastrium.

12. When there is fatty degeneration of the kidneys, in addition to the signs already enumerated, there will usually be—

a. Urine below the normal standard in quantity, oftener turbid than clear, containing much albumen, and depositing numerous oil-casts.

b. A tendency to general anasarca.

c. Extreme pallor and pastiness of countenance.

13. As in waxy disease of the liver, the diagnosis will often be materially aided by attending to the circumstances under which the enlargement occurs. Many different conditions of the system may give rise to fatty enlargement of the liver, but most of them may be referred to one of the following heads:—

a. Large accumulation of fat beneath the skin and throughout the body, in persons who for the most part are large feeders and lead indolent lives. It is in this condition that the heart is most likely to participate in the fatty change, and that you will expect to discover the symptoms of fatty heart already referred to. It is patients in this state who are most prone to die of rupture of the heart. In the "Pathological Transactions" you will find several cases recorded in which patients died of rupture of the heart, and where not only was the heart found in a state of fatty degeneration, but the liver was enormously enlarged from fatty deposit, and there was a large accumulation of fat throughout the body.

b. Alcoholism.—Persons who drink immoderately of ardent spirits, particularly if they take little exercise, are very subject to fatty liver. Of thirteen persons who died of delirium tremens, Frerichs found the liver very fatty in six. Of two fatal cases of delirium tremens in which an autopsy was made by me in this hospital some years ago, there was considerable fatty enlargement of the liver in both: in one the organ weighed eighty-three ounces; in the other ninety-six ounces. It is under these circumstances that the kidneys often participate in the fatty degeneration.

Digitized by Google

c. Phthisis.—The great frequency of fatty enlargement of the liver in persons suffering from pulmonary consumption has been already referred to under the head of the waxy liver. In consumptive females it is much more common than in males. In this disease, it is not a little remarkable that, while fat disappears rapidly from almost every tissue in the body, it should accumulate in such large quantities in the liver.

d. Other wasting diseases besides phthisis—such, for instance, as cancer, simple ulcer of the stomach, and chronic dysentery—are likewise often attended by fatty enlargement of the liver.

It appears, then, that fatty liver is met with under two opposite conditions: one, in which there is an increased supply of material capable of being converted into oil, and where fat often accumulates in all the tissues of the body; the other, in which there is a rapid absorption of fat from all the tissues, with consequent emaciation. Its mode of production in the former case is sufficiently obvious; in the latter, the blood becomes loaded with oily matters derived from the patient's own tissues, and this oily matter is separated from the blood in its passage through the liver. The impaired absorption of oxygen in phthisis, interfering with the proper metamorphosis of the oil, accounts for fatty liver being more common in pulmonary than in other wasting diseases; and the greater frequency of fatty liver in women may be accounted for by women having in general a larger quantity of fat to be absorbed.—*Lancet.*

On Nightmare of Children: By SYDNEY RINGER, M. D., Professor of Materia Medica and Therapeutics at University College; Physician to University College Hospital; Assistant-Physician to the Hospital for sick Children, Great Ormond street.

VIOLENT screaming, which cannot be quieted, and which may last for a few minutes to several hours, is frequently witnessed in children.

This is generally produced by one of three causes—hunger, pain, or nightmare. These remarks treat of screaming from the last cause.

The following account gives a fair example of a case of this kind:—

Charles L., 2 years old, came under my care at the out-patient department of the Children's Hospital. The child was badly nourished, and was afflicted with a frequent hacking cough, that troubled him much more at night than day. For two months he had, twice or three times each night, started from his sleep, screaming violently. Each paroxysm of screaming lasted about half an hour. Sometimes he rolled about the bed, threw his arms about, and knocked his head violently against the bed; on other occasions he sat up in the bed and screamed so violently that he became black in the face. While thus afflicted his eyes rolled, and he appeared to be quiet unconscious, as he did not recognise his mother, and could not be brought to by her care and attention. His mother stated he did not appear to have his senses. He gave no signs of being in pain. He did not talk, he only screamed violently. After each paroxysm he fell asleep, but his sleep was disturbed, and his eyes still rolled, and he frequently moaned. His gums were neither red nor swollen. His appetite was good, but his bowels had been relaxed for three

Digitized by Google

weeks, and his motions were green and slimy, but no worms were ever seen in them. He was fed judiciously. He wetted the bed at night. During the fortnight that preceded his application for relief at the hospital, he had suffered from two convulsive fits, when his arms worked and his face twitched. Each of these fits lasted twenty minutes.

This case may be accepted as a very fair example for the screaming of which we are now speaking.

Such screaming may occur in children of all ages; but, while it is met with in children of ten or twelve years of age; it is of more common occurrence in those of a few months to two or three years old.

These attacks may last a very variable time, for though the paroxysm may pass away in a few minutes, it sometimes continues for half an hour to one or even two hours. During this time the screaming is violent and continuous. Sometimes the chlldren appear to be asleep throughout the paroxysm, while other children wake from their sleep, but continue to scream with unabated violence; but even when awake they often appear to be unconscious of what occurs around them. They seem to be, as their mothers state, "out of their senses;" thus they for the most part cannot be quieted. Others appear to awake thoroughly, and are then terribly frightened, and often tremble all over. Such children can generally be quieted in a short time by kindness and attention paid to them, but they remain for some time much agitated, and refuse to be left alone, or, if removed from their bed, they are afraid to return to it. Some children cry only a little, but they wake up frightened and trembling.

Such screaming may continue to occur for months and even years, sometimes disappearing for a time, and then, from various causes to be immediately mentioned, it returns again. It is often repeated several times each night for several months.

Such attacks are naturally a source of much annoyance and much anxiety to the parents, and thus medical men are not unfrequently consulted for this affection. The screaming may be so violent that the child becomes "black and blue" in the face, and occasionally it even terminates in a general convulsion. This, however, is unusual, and in my experience occurs only in children who suffer from convulsions without screaming and from other causes. Such paroxysms of screaming sometimes recur only with long intervals. The child may have one attack, but this may not be repeated for some weeks, or even some months. On the other hand, they may recur ten or twelve times a night.

This screaming differs from delirium, as it does not occur in those diseases accompanied by delirium. Moreover, there is no incoherent talking or muttering, while some children can be roused from this state and are then perfectly rational, although greatly frightened; it occurs only during sleep. The mothers often call it nightmare.

The children, the subjects of this affection, are very generally pale, often ill-nourished, and out of health. The immediate cause of this screaming appears to be some disturbance of the stomach and intestines. The nature of this affection of the intestinal canal may be very various in different cases, for one child may suffer from constipation while another is troubled with diarrhœa. This disturbance is very generally dependent on food ill-suited to young children; for this irregularity of the bowels, and the screaming which accompanies it, are especially frequent in those children who have been brought up by hand, and who,

Digitized by Google

consequently, suffer on the one hand from diarrhœa, on the other from constipation. Children thus reared suffer, as is well known, very generally from constipation, and pass hard, pale, lumpy motions, sometimes like marbles. These masses may consist of fæces; they are often composed of coagulated undigested milk, of a yellowish or greenish-yellow color outside, but are white and cheesy within, looking like, and, indeed, being composed of, curds of milk. (It may be here mentioned, in passing, that not uncommonly children pass by the bowel, or sometimes vomit, large masses of the same composition. These are generally two or four inches long, and about an inch in diameter. They often excite much wonder and anxiety on the part of the mother. When broken, the white curdy appearance at once declares their nature.) Children who suffer from this affection now under consideration are sometimes infested by thread worms, and also show signs of the altered condition of the mucous membrane of the stomach and intestines by itching, heat, and dryness of the inner part of the nose, with itching at the anus. This screaming is increased by anything that interferes with the general health of the child. Thus, it is observed to be worse when the teeth are making their way through the gums, although the irritation and pain which arise from teething appears to be incapable of themselves of exciting this screaming. It is also made worse by slight attacks of catarrh of the lungs, or eruptions on the body. By treatment this screaming can usually be at once arrested. Both general and local treatment are in most cases required, the former to improve the general health, the latter to remove the conditions immediately exciting the screaming.

The diet should be attended to, and any irregularity in the hours at which food is given to the child, or any unsuitability in the nature of the food, must be remedied. Attention to these points will very generally arrest any diarrhœa which may be present, but constipation with hard shotty motions will generally prove more obstinate, for such motions are almost invariably passed by young children under six months old when brought up by hand, and this although they may be correctly fed and take nothing but good cow's milk sufficiently diluted with water. We have seen that these hard, round, lumpy motions are partly composed of coagulated undigested milk. This coagulation in mass can sometimes be stayed by the addition to the milk of alkalies, such as limewater or bicarbonate of soda. The latter is preferable for this purpose, as limewater confines the bowels, and thus bicarbonate of soda should be preferred.

If the bowels are confined, an active purgative will, in the great majority of cases, suffice to stay the screaming, and will insure to the child calm and refreshing sleep. A powder of rhubarb and soda repeated every night, or every other night, till three powders have been given, is useful. If the child be pale, and the constipation recurs and is obstinate, the following prescription will be found very advantageous —namely:—Steel wine, to which is added a few drops of tincture of rhubarb, in quantities adapted to the age of the child and to the obstinacy of the constipation. Usually six drops of tincture of rhubarb in a teaspoonful of steel wine given three times a day will open freely and comfortably the bowels of a child from six to nine months old.

In order to effect a permanent cure it is often necessary to give medicines to improve the general health of the child, as these children are frequently pale and badly nourished.

Digitized by Google

Thus, in children suffering from the affection we have just described, to effect a permanent cure, if the general health be bad, treatment must be directed to the restoration of the body to sound health. In these cases iron, cod-liver oil, with cold sponging prove most useful. Of the various preparations of iron, the tincture of the sesquichloride, in my experience, is decidedly the best. It has appeared to me that bromide of potassium is able to stay this screaming, but as its administration has been accompanied by the use of purgatives, or a regulated diet, it is difficult to determine how far the bromide was useful. It is, however, I feel sure, worthy of a trial in obstinate cases. Cold baths must be given with care; for while they may, if properly administered, do much good, if administered without certain percautions they will do great harm to children. If too great a shock be given to the child, depression of the system will be produced, and this may last even several days after the bath is administered, when the child may be languid and depressed, and may suffer from much chilliness with loss of appetite. Thus the amount of shock produced by the bath must be regulated to the age and strength of the child. In cold sponging of the body the shock caused is proportioned to the coldness of the water and the length of time the bath is continued; while the younger the child, or the weaker its health, the less able is it to bear up against the effect of the shock to which it is exposed. Hence with young children, and especially with those whose system is depressed, the bath should be continued only for a short time, and if the weather be cold, the water must be slightly warmed. When the child is weak, the bath should be continued at first for a few seconds only, and its duration be gradually increased as the child becomes accustomed to its use.

If the following simple plan be adopted, the child, even if very weak, can take the cold bath with advantage, and all chance of depression is removed. The child should be placed before a good fire with its feet in warm water, while the cold water is freely poured over every part of the body except the head and face. The healthy reaction, with the agreeable sensations which followed the use of the bath, may be much increased by placing the child for a short time in the warm bed from which it had just previously been removed. The bath should be given immediately the child leaves its bed, and the breakfast should be taken soon after the sponging is complete.—*Medical Times and Gazette.*

On Skin Diseases—Itch: By TILBURY FOX, M. D., M. R. C. P., Physician to St. John's Hospital for Skin Diseases.

SCABIES has undoubtedly been very prevalent amongst us during the last few years; and this has been regarded as a consequence in part of the Crimean war, and in part of the constant non-recognition of the disease and an increase of the overcrowded state of the population. The Americans are experiencing a similar state of things—as a result, they suppose, of the late war. Many cases that I see have evidently obtained the disease from ships on their voyage from distant parts to this coun-

Digitized by Google

try. I venture to sketch scabies from a diagnostic point of view, as the determination of what is and what is not itch is often difficult.

The effect of the burrowing of the acarus, which is the essential cause of scabies, is to set up more or less local irritation, according to the state of the patient's nutrition. On a healthy and clean skin no great amount of mischief follows; the acari, however, delight in dirt, and run riot, as it were, on unwholesome surfaces. In the first degree there may be simply those conditions which only necessarily accompany and constitute the mere burrowing of the acarus. The patient complains of itching having all the characters of that of the scabies; but a diagnosis of *pruritus* is erroneously made. The little furrows are unaccompanied by redness, and so delicate that they are overlooked. These cases are rare. The only way in which the papules can be fairly seen is by a side glance with the eye on the level of the skin; they are fine, delicate, slightly elevated, tansparent, and contain acari. The suspicious symptom is the itching at night.

Under ordinary circumstances, the acarus sets up effusive inflammation, which may reach the stage of papulation or vesiculation or pustulation; the furrow running away, as it were, from the vesicles, which are peculiar, in so far as they are isolated and acuminated.

So, then, there are degrees of scabies: there is the mere burrowing (the essence of the disease), and certain secondary changes which entirely depend upon the state of the patient's health. Scabies in a filthy pilgrim is very different from that in a clean European; and the scabies of the upper classes is different from that observed in the ill-fed and badly hygiened of our own people as represented by the degrees we have spoken of. This fact wants more recognition. It is clear, then, that the amount of eruption depends less upon the number of acari than the state of health, though in sensitive skins a few acari may set up a good deal of erythema and urtication.

In *chronic* scabies we notice clinically two important facts:

1. That the seat of the eruption may shift itself—at one time the hands perhaps may be comparatively well, and then a fresh outcrop of vesicles and papules occur.

2. The eruption may vary in intensity: it may diminish in severity, and again become exaggerated according to the hygienic conditions surrounding the patient or the state of his health. In the chronic cases we shall find the remains of the furrows occasionally as rugged lines formed by the shrivelled and broken walls of the furrows. This is very diagnostic of scabies (chronic).

The acari prefer certain localities to be mentioned directly. There are also spots to which they are frequently specially conveyed, by the child's hands, for instance, to the mamma, by the hand to the penis, the nurse's arms to the buttocks of the child. On the face it seldom occurs in consequence of the influence of the external cold, but in children there are exceptions. In children it is often absent from the hands; beginning about the buttocks, it is seen about the feet especially, and often over the stomach and the well-covered and therefore warm back; when on the face, it is occasionally accompanied by sympathetic eczema about the scalp. It is said by some that the acari are only found about the hands, and that the eruption about the body is entirely sympathetic. Hebra thinks much of the eruption is caused by scratchiug. No doubt much of the eruption is sympathetic; and although acari are to be found

Digitized by Google

in largest proportion about the hands, yet they are often entirely absent there in the child, and can be detected over other parts of the body.

The following are the diagnostic point of scabies, but the only really conclusive proof of its existence is the discovery of the furrow and its acarus.

1. Absence of febrile disturbance.

2. Absence of rash from the face and head (this is the rule); its absence from the posterior surface of the arm or body.

3. The seat or the eruption: were the cuticle is thin—as for instance, the interdigital spaces, the anterior surface of forearm, front of the body below the nipple-level, about the mamma of women, along the front of the penis in men; in the seats of pressure—as for instance, about the groin when trusses are worn, over the ischia, and about the inner line of the wrist, forming a semicircle; in children—the buttocks, the feet, especially the inner line of the foot, the palmar surface of the hands.

4. The isolation of the vesicles, and their pointed shape.

5. The *multiformity* of the eruption—namely, the intermingling of papules, vesicles, pustules, scabs, and even small ulcers.

6. The itching at night, and the peculiar linear scratches made with the nails and fringed with dried blood.

7. The cuniculus or furrow—in pustular scabies few.

8. The evidence of contagion, or the existence of the same sort of disease in one house or family.

It is in childen than the greatest mistakes are made, simply from the want of knowing that scabies does not prefer their hands and arms, but their feet and their buttocks.

With what disease may scabies be confounded?

Lichen.—But in lichen the eruption is *uniform*. There are no vesicles or pustules. Lichen occurs on the outer aspect of the forearm. The skin generally is dry, thickened, and discolored. And though the back of the hands are sometimes attacked, the interdigital spaces do not suffer. The itching is different. There are no cuniculi; no acari of course. It does not occur about the seats of pressure especially. There are no rhagades produced by scratching; and the rash is seen frequently about the face, and often over the back.

Prurigo.—In very many cases of scabies the papules become prurigino us, but not to such a marked degree as in prurigo; and this is only in scabies a feature superadded. The prurigo of scabies is seated about the belly and the anterior surface of the forearm; whilst in true prurigo the papules are scattered over the outer aspect of the limbs, over the back, *above* the level of nipple line, around the neck, in greatest profusion; and about the legs. Moreover, there are no vesicles, though in old-standing cases ecthymatous pustules may be developed. But here the origin from prurigo, and not scabies, is traceable. Then the skin in prurigo is unhealthy, the areas of skin enclosed by the natural furrows are exaggerated, and a condition of "urtication" results—oftentimes well seen on the back. Pediculi are often present; and the sensation is not itching so much as formication and burning.

Strophalus (or lichen) pruriginosus.—This is simply lichen occurring in ill-fed and strumous children, and in consequence the papules are covered at their apices with little points of coagulated blood. This disease lacks altogether the features of scabies as regards the acarus and its fur-

Digitized by Google

row, and the multiform aspect of the secondary eruption; and it is made worse by *the use of sulphur ointment.*

Eczema.—This differs entirely from scabies in that it is essentially an oozing disease, in which the vesicles are agglomerated (and not isolated and acuminated), forming a patch of greater or less extent the absence of furrows, etc., of the peculiar itching, of a multiformity in the eruption.

Sulphur rash.—One of the commonest errors is to mistake the artificial rash set up by the use of that villainous compound—the compound sulphur ointment of the old Pharmacopœia—for a continuance and increase of the disease; this has been referred to in a former paper.

Impetigo contagiosa, which I propose to describe at another time specially, mostly begins about the face and head, and is transported hither and thither by the fingers in scratching. It looks like ecthymatous scabies, but it is not commonly interdigital; the eruption is *uniform,* commencing as isolated vesicles that quickly enlarge into bullæ, with a depressed centre surrounded by a raised collar of blebbed epidermis, and being replaced by a light-yellow, flat scab that looks as if "stuck on" to the part. There are no papules, no furrows, no scratches; it is not interdigital, but attacks the outer aspect of the limbs equally with the inner, the buttock however in children, and frequently the knees and the feet; the ends of the fingers rather than the palm and interdigits, and this condition is almost always accompanied by eruption on the head and face. Except just at the outset, there is no special itching at night or day either. It is contagious and often epidemic.

Complicated scabies.—Almost any other eruption may commingle with that of itch. This is very important to bear forcibly in mind; the more we recognise the fact the more likely are we to prevent ourselves being puzzled. We must manage to recognise the co-assemblage of symptoms. Secondary syphilodermata and scabies are frequently coexistent. Eczema is very often associated as a sequence, and ought not to suffer any difficulty. Scabies in children and congenital syphilis are not unusual. Lichen is sometimes set up and kept a-going by a few acari. *Most cases of lichen urticatus* are dependent upon scabies. Again, purpura and impetigo contagiosa may be associated with scabies, the latter frequently. In all these cases we generally have (1) a history of scabies at the outset; (2) multiformity of eruption, and of course intermingling of the characters of the two coexistent diseases; (3) the appearance of contagion given to what we hold to be non-contagious disease. For example, a child may seem to catch lichen from another who perhaps we know has scabies; the truth being that a few acari have been transplanted, and produced lichen to such an extent as to have masked the primary mischief, which is only slightly expressed. It is a most excellent rule—one that I adopt myself—to search for scabies in all cases in which eruptive disease is extensive, and accompanied by much itching at night, especially if it possess multiformity as one of its features.

Treatment.—Scabies never gets well spontaneously. We must treat, 1st, the scabies itself, killing the acari and their ova; 2nd, the secondary effects; and 3rd, the complications. In all cases, *to all papules and vesicles,* the following should be applied: sulphur, half a drachm; ammoniated chloride of mercury, four grains; creasote, four drops; oil of camomile, ten drops; and an ounce of lard. This is rubbed in night and morning; the same shirt kept on till the fourth day, when it is changed,

Digitized by Google

and a warm bath given; the ointment to be freely rubbed into the wrists and interdigits especially. In complicated scabies, we should treat the scabies always, scrupulously seeking every suspicious papule, and engraft upon this the plan best suited to the complicating eruption, whatever it may be. We should always remember that in complicated scabies a small amount of scabies may exist with a good deal of eruption. When the scabies itself is well, in severe cases a certain period must necessarily elapse before the secondary eruptions can be cured. The process of repair takes time. So we must not persist in the sulphur treatment till all eruption has subsided in cases of severity. We judge of the cure of scabies by the itching and by the presence of the vesicles and papules. If we push our sulphur treatment too far, we may produce the fate already described as so often mistaken for the continuance and increase of the disease; for this reason the ointment containing hellebore should not be used.—*Lancet.*

OBSTETRICS AND DISEASES OF WOMEN.

Artificial Respiration by Succussion in the Asphyxia of New-born Infants.

A paper on this subject was read before the Imperial Academy of Medicine at Paris, by M. Mathei, in which he divides asphyxia into three classes. First, those cases in which the child respires, though feebly; second, when the respirations are stopped, although the heart still beats; and third, those cases in which both functions are held in abeyance, although the heart is still capable of contracting. In the first class only the ordinary excitants are required, but in the two others artificial respiration is requisite. M. Mathei considers his method by succussion, practiced as follows, as the most convenient and effective. The infant is taken up from behind by the shoulders, with the fingers of the operator's hand in the axilla. The child is then lowered to the ground and raised with a quick jerk, which has the effect of producing a respiratory movement in the lungs, by causing the liver, stomach and diaphragm, which is connected with both these organs, to descend. This method has succeeded repeatedly in many grave cases of asphxia, occurring in the practice of M. Mathei, and possesses an advantage over the method of blowing in the mouth and nostrils, as it does not cause wind to enter the stomach.—*Gazette des Hôpitaux, Fevrier* 7, 1867.

Galactorrhœa. From the French of Tardieu: By Wm. Mason Turner, B. Ph., M. D.

The name galactorrhœa has been given to an excessive secretion, and a considerable loss of milk, accompanied by wasting away. We observe it among nurses, and those women who have recently weaned their children.

Digitized by Google

We will make for galactorrhœa the same remark as for seminal losses. It is not so much the extreme abundance of the secretion, as it is the relative excess in the flow of milk, in regard to the forces, and the general nutrition of the woman, which constitutes the morbid state; and from it arise a double series of phenomena and particular accidents. When there is a genuine superabundance of milk, it flows spontaneously from the mamellæ, without the aid of suction, and moistens and penetrates—especially a few hours after eating—the linen with which the woman covers her breasts.

When the flow, without being so abundant, is nevertheless too considerable for the constitution of the nurse, the woman speedily shows signs of feebleness, although the infant takes from her but a small quantity of milk. Notwithstanding the hunger which torments her, and the food she takes to appease it, the emaciation increases day by day; the slightest exertion augments the debility; palpitations of the heart, accompanied by the *bruit de souffle* in the large vessels, supervene; then dyspnœa and a dry cough; the cheeks are slightly flushed, while the rest of the face is pale; but the pulse does not, as yet, present any alteration. After a short while, the appetite is lost, nausea, nervous symptoms, such as spasms, sudden swoonings and headache, show themselves, and the cough is much augmented.

Towards the middle of the course of the complaint, a slight heat is noted, preceding for a few moments a series of rigors. The patient suffers the most pungent pains in the back, in the breast, in the kidneys, under the sternum, and in the limbs. She almost goes wild in her mad efforts at coughing and at breathing, and throws her arms violently to and fro. Enervation increases each day, and night sweats debase the vital forces; the pulse is frequent but small; hæmoptysis occurs, and, in the more grave cases, we can mark the development of every symptom of phthisis pulmonalis.

The causes of galactorrhœa reside, it may be altogether, in the constitution of the woman, or it may be in the circumstances attending suckling. In the first case, the condition of former debility—a premature maternity—bad diet, excessive fatigue, the germ of an organic malady, a new pregnancy, happening during lactation, an exaggerated nervous temperament, and, above all, a certain hereditary predisposition, appear to tend to the development of this complaint. But as regards the latter cause, it is chiefly determined by a too extended nursing of the infant, or by the simultaneous suckling of several children. The diagnosis will present no difficulty if we will remember that it is necessary to regulate the absolute quantity of milk, and if we bear in mind the assemblage of accidents incidental to lactation. Remembering these, there can exist no longer any doubt as to the nature or gravity of the disease.

The first condition of the treatment is, naturally enough, the suspension, or gradual diminution in suckling. In the meantime, when we allow a vigorous milk-giving to go on—which should not be done in a case of moderate secretion of milk—it is necessary to have recourse to tonic preparations, and chiefly to the *soft* extract of Peruvian bark, in preference to the ferraquinous, as the condition of the breast might be, by the latter, impaired. At the same time, we should keep the breasts enveloped in warm wadding, and should seek to resolve the secreted

Digitized by Google

fluids by means of mild laxatives, warm drinks, (as infusion of periwinkle and sugar cane), and especially by repose in bed and a light diet. The preparations of iodine, and, in a marked manner, the iodide of potassium, has been exhibited in such cases, with great advantage.

Lectures on Obstetric Operations: By ROBERT BARNES, M. D. Lond., Fellow and late Examiner in Midwifery at the Royal College of Physicians; Obstetric Physician and Lecturer on Midwifery at St. Thomas's Hospital; Physician to the Royal Maternity Charity; Examiner in Midwifery at the Royal College of Surgeons.

Two things have to be considered when attempting to describe the operations in midwifery—

1. What are the emergencies which call upon the Practitioner to operate?

2. What are the means, the instruments at his disposal?

If each accident or difficulty in labor were uniform and constant in all its conditions, it might be possible to apply to its relief the same operation or the same instrument. The history of operative midwifery might be told in an orderly series of simple mechanical formulæ. But how different is the case in practice! How infinite is Nature in her phases and combinations! The dream of Levret will never be realised. In proportion as observation unfolds these combinations, ingenuity is ready to multiply the resources of art. To describe these combinations, and the means of meeting them, is a task of ever-growing difficulty. Partial success only is possible.

The multitudinous array of instruments exhibited at the Obstetrical conversazione last year, vast as it was, gave but a feeble idea of the luxuriant variety that have been devised. If all these had their individual merits and uses, endless would be the labor of appreciation; the task of describing the operations of midwifery would be hopeless. It is, indeed, true that every instrument, even every modification of an instrument, represents an idea, although sometimes this idea is not easy to understand. Fortunately, it is not always important that the idea should be understood. Many of these instruments are suggested by imperfect observation, by ill-digested experience; many are insignificant variations upon an idea which, in its original expression, was of little value. Huge heaps, then, of instruments may, without loss of science, and to the great comfort of womankind, be cast into the furnace; the ideas of their inventors melted out of them. All that is necessary in relation to them is, to preserve examples in museums, where they may serve as historical records marking the course of obstetric science in its ebb and flow; for, strange to say, obstetric science has its fluctuations of loss as well as gain, of going back as well as going forward. These historical specimens will also serve the useful office of warning against the repetition of exploded errors, and of saving men the trouble and vexation of reinventing.

When science finds herself in the presence of complicated and dis-

Digitized by Google

ordered facts and ideas, her resource is to classify—that is, to seize a few leading ideas under which the subordinate ones may be grouped. In the first instance, the minor or subsidiary ideas—the epigenetic ideas they may be called—are disregarded. The grand or governing ideas only are studied. Then the process of analysis, the descent to details, to particulars, begins; and again, unless we keep a steady eye upon the governing principles, we are in danger of losing ourselves in the infinitely little, of falling into chaos, of running astray from the parent or guiding truth, in fruitless chase of the multitudinous splinters into which it has been subdivided.

What, then, have we to do? Knowing that, we will see how we can do it. Nature, although always requiring skilful watching, in the majority of cases does not want active assistance. But the cases are many in which pain, agony, may be averted; in which positive danger has to be encountered, and thrust aside; in which action must be prompt and skilful. Labor is a problem in dynamics. Three factors are concerned in the solution:—1st, there is the fœtus, the body to be expelled. 2d, there is the channel, made up of the bony pelvis and soft parts, through which the body must be propelled; these two together constitute the resisting force, the obstacle to be overcome. 3d, there is the expelling power, the uterus and voluntary muscles. These factors must be harmoniously balanced to produce a healthy labor. Labor may come to a stand from error in any one of these factors, or from disturbance of correlation. The permutations are almost infinite in kind and degree. There are not so many ways in which compensation or correction may be made—that is, treatment is more simple than are the causes of disturbance. To take the third factor first. The expelling power may be deficient, the other factors preserving their due relations. This power is a *vis à tergo*. The want of it may be made good in one of two ways. We may in some cases spur the uterus and its auxiliary muscles to act. The power may be dormant only; it exists potentially, capable of being roused by appropriate stimulus. This is the case for oxytocics, such as ergot, cinnamon, borax, or cinchona. But the power may not be there, or, if there, it may not be wise to provoke it to action.

An interesting question arises here:—Can we, without resorting to oxytocic medicines, arouse or impart a *vis à tergo*? Can we apply direct mechanical force to push the fœtus out of the uterus, instead of dragging it out? Now, in some cases this seems possible. Von Ritgen, in a memoir on "Delivery by Pressure instead of Extraction," adverting to the fact that the natural mode is by pushing out, said that the artificial mode was by dragging out; and asked, very pertinently, "Why do we always drag and never push out the fœtus?" Dr. Kristeller has carried the idea into practice. By means of a dynamometric forceps he has shown that a force of five, six, or eight pounds only is often sufficient to extract a head that has lain for hours unmoved; so that the force to be administered in the form of pressure need not be very great. It is needless to premise that the presentation and the relations of fœtus and pelvis must be normal. The method is as follows: The patient lying on her back, the operator places his hands spread on the fundus and sides of the uterus, and combining downward pressure with the palms on the fundus, with lateral pressure by means of the fingers, the uterus being brought into correct relation with the pelvic

Digitized by Google

axis, its contents are forced down into the cavity. The pressure is so ordered as to resemble the course and periodicity of the natural contractions. Of course, the pressure will often excite uterine contraction to aid or even supplant the operator. But it seems that pressure alone is sometimes sufficient. As an adjuvant to extraction, pressure is, I know, of great value. I never use the forceps or any extracting means without getting an assistant to compress the uterus firmly, to maintain it in its proper relation to the axis of the brim, and to help in the extrusion of the fœtus. This resource, then, should not be lost sight of. In certain cases it may obviate the necessity of using the forceps; or it may stand you in good stead when instruments are not at hand. When a *vis à tergo* cannot be had, we have the alternative of supplying power by importing a *vis à fronte*. In the case we are supposing, the means of doing this reside chiefly in two instruments—the lever and the forceps.

In the second order of cases there is a want of correlation between the body to be expelled and the channel which the body must traverse. There are many varieties of this kind of disturbance. The progress of the head may be opposed by rigidity of the soft parts, especially of the cervix uteri. Patience is one great remedy for this. A dose of opium and a few hours' sleep will sometimes accomplish all that is desired. But patience may be carried too far. If the pulse rise and the sufferer shows signs of distress, it is proper to help. I have no faith in belladonna. To excite vomiting by tartar emetic is to add to the distress of the patient without the certainty of relieving her. To bleed is also to indulge in a speculation that will certainly cost the patient strength she will need, and it promises only doubtful gain. We have two mechanical resources to meet this strictly mechanical difficulty. There is the hydrostatic dilator, which I have contrived for the express purpose of expanding the cervix. In the case of a cervix free from disease, dilatation will commonly proceed rapidly and smoothly under the eccentric pressure of these dilating water bags, which closely imitate in their action the hydrostatic pressure of the liquor amnii. In the case of rigidity from morbid tissue, as from hypertrophy or cicatrices, something more may be necessary. The timely use of the knife will save from rupture, from exhaustion, or from sloughing. I have contrived a very convenient bistoury for this purpose. It is carried by the finger into the os uteri, multiple small nicks are made in its circumference, and by alternate distension with the water bags the cervix may be safely and sufficiently dilated.

The fœtus and the channel may be duly proportioned, but the position of the child is unpropitious. In this case all there is to do is to restore the lost relation of position. The hand, the lever, and the forceps are the instruments. There is disproportion. This may be of various kinds and degrees. The varieties will be more conveniently unfolded hereafter. It is sufficient to say here that all resolve themselves, in practice, into three classes—

1. Disproportion that can be overcome without injury to the mother and with probable safety to the child.

2. Disproportion that can be overcome without injury to the mother, but with necessary sacrifice of the child.

3. Disproportion that can be overcome with possible or probable safety to both mother and child.

Digitized by Google

The first class of cases may be relieved by the hands, or by the forceps. The second by reducing the bulk of the child to such dimensions as will permit it to pass throught the contracted channel. The perforator, the crotchet, the craniotomy forceps or cranioclast, the cephalotribe, the forceps-saw are the principal instruments for bringing the bulk of the child down to the capacity of the pelvis.

In the third class of cases we cannot insure the mother's safety by sacrificing her child. We therefore seek her probable safety by an operation—the Cæsarian section—which evades the difficulty of restoring the relation of bulk and capacity between fœtus and pelvis, by extracting the fœtus through an artificial opening in the mother's abdomen. The instruments required for this purpose are not specially obstetrical,

I will now say a few words in explanation of some of the instruments recommended.

1. *The lever.*—The form adopted is that of Mr. Symonds, of Oxford. The blade or fenestra is rather strongly arched; and there is a joint in the shank, enabling the instrument to be doubled up for greater convenience of carrying.

2. *The forceps.*—There are several excellent models. I am not bigoted in favour of my own. The best are Simpson's and Roberton's. The essential conditions to be contended for are:—That the blades have a moderate pelvic curve; a head-curve also moderate; an extreme divergence between the fenestræ of three inches; the length of the arc of the cranial bow of about seven inches, to adapt it to the elongation of the fœtal head during protracted labor. There should be between the springing of the bows and the lock a straight shank to lie parallel with its fellow, to carry the lock clear of the vulva and save the perinæum. In my forceps the shank is further lengthened by a semicircular bow, which forms a ring with its fellow when locked. The use of this is to give a hold for the finger of one hand whilst the other grasps the handles. In Simpson's instrument there is a hollowed shoulder at the head of each handle which answers a similar purpose, and perhaps better. The lock should be easy—a little loose. The English lock is not, I think, surpassed for convenience; but the French lock is a good one. The handles should not be less than five inches long. They should afford a good grasp. Unless they are strong and of fair length, they cannot exert any compressive force for want of leverage, for the fulcrum is at the lock. I think all forceps that have very short handles, especially if not provided with some means, such as the ring or projecting shoulders, which will enable the operator to use both hands, ought to be rejected. A two-handed instrument can be worked with the utmost nicety and economy of muscular force. A single-handed instrument is necessarily a weak one. The absurd dread of possessing powerful instruments has long been the bugbear of English midwifery. It has been sought to make an instrument safe by making it weak. There can be no greater fallacy. In the first place, a weak instrument is, by the mere fact of its weakness, restricted to a very limited class of cases. In the second place, if the instrument is weak, it calls for more muscular force on the part of the operator. Now, it is sometimes necessary to keep up a considerable degree of force for some time, and not seldom in a constrained position. Fatigue follows; the operator's muscles become unsteady; the hand loses its delicacy of diagnostic touch, and that exactly balanced control over

Digitized by Google

its movements which it is all-important to preserve. Under these circumstance he is apt to come to a premature conclusion that he has used all the force that is justifiable—that the case is not fitted for the forceps—and takes up the horrid perforator; or he runs the risk of doing that mischief to avoid which his forceps were made weak. The faculty of accurate graduation of power depends upon having a reserve of power. Violence is the result of struggling feebleness, not of conscious power. Moderation must emanate from the will of the operator; it must not be looked for in the imperfection of his instrument. The true use of a two-handed forceps is to enable one hand to assist, to relieve, to steady the other. By alternate action the hands get rest, the muscles preserve their tone, and the acurate sense of resistance which tells him the minimum degree of force that is necessary, and warns him when to desist. A similar reasoning applies to the perforator and the craniotomy forceps.

* * * * * * *

And, lastly, let me add a few words concerning the obstetric hand, as the master instrument of all, not only as guiding all the rest, but as performing many most important operations unarmed. In ordinary labor it is the only instrument required. It is also the only instrument called for in many of the greatest difficulties. In malpresentation, in placenta prævia, in many cases of contracted pelvis, in not a few cases where, after perforation, the crotchet and craniotomy-forceps have failed to deliver, the bare hand affords a safe and ready extrication. One cannot help seeing that practice is often determined by the accidental perfection of, or familiarity with particular instruments. Thus, a man who has only reached that of obstetric development which is content with a short forceps will be armed with a good perforator and crotchet. He cannot fail to acquire skill and confidence in embryotomy, and greatly to restrict the application of forceps. Again, the preference generally given on the Continent to cephalotripsy over craniotomy and extraction by the crotchet or craniotomy-forceps is the result of the great study directed to the perfecting of the cephalotribe. At the present day we may boast of having good and effective instruments of all kinds, each capable of doing excellent work in its own peculiar sphere, and moreover endowed with a certain capacity for supplanting its rival instruments. For example, the long forceps is adapted to supplant craniotomy in a certain range of cases of minor disproportion. Hence it follows that it is of more importance to have a good forceps which can save life than it is to have a good perforator and crotchet which destroy life. At the same time, it is eminently desirable to possess the most perfect means of bringing a fœtus through a very narrow pelvis, in order to exclude or to minimise the necessity of resorting to the Cæsarian section. Our aim should then be to get the most out of all our instruments—to make each one as good of its kind as possible. And admirable is the perseverance, marvellous and fertile the ingenuity, that have been brought to this task. I will not say it has all been misdirected; but certainly the cultivation of the hand, the study of what it can do in the way of displacing cold iron, has been much neglected. It would be not less instructive than curious to carry our minds back to the days when the forceps and other instruments now in use were unknown, and to confront the problem which our predecessors, Ambroise Paré, Guillemeau, and others, had to solve—namely, how to deliver a woman with deformed pelvis without instruments. That

Digitized by Google

they did successfully accomplish in many instances with the unarmed hand what we now do by the aid of various weapons, there can be no doubt. If this implies greater poverty of resources on their part, it not the less implies also greater manual skill. I am confident that the possession of instruments, especially of the craniotomy instruments, has led, within the last century, to a neglect of the proper uses of the hands, which is much to be deplored. We are only now recovering some of the lost skill of our ancestors.

Obstetric surgery has this peculiarity: its operations are carried on in the dark, our only guide being the information conveyed by the sense of touch. The mind's eye travels to the fingers' ends. The hand thus possesses an inestimable superiority over all other instruments. Its every movement is regulated by consciousness. It is right, then, to ascend a little the stream of knowledge and to endeavour to recover from the experience of our forefathers their secret of *chirurgery*; to regain, to extend, that power over the great instrument from which the surgeon derives his name.—*Medical Times and Gazette.*

On the Treatment of Labor Complicated with Ovarian Tumor: By W. S. Playfair, M. D., Assistant Obstetric Physician to King's College Hospital.

The author commenced by relating the particulars of a case of labor obstructed by ovarian tumor which had come under his observation. The pelvis was occupied by a solid ovarian growth, which was not diminished by puncture, delivery being finally effected by craniotomy. He then proceeded to analyse the details of fifty-seven similar cases, collected from various sources, pointing out the results of the various methods of treatment employed. He shows that nearly one-half of all the cases left to nature had proved fatal, probably on account of the bruising and contusion to which the tumor was necessarily subjected during the passage of the head. On the other hand, all the cases in which the tumor had been diminished in size by puncture recovered; and he strongly advocated this treatment, even when there was apparently sufficient room to admit of delivery without it. One-half of the cases in which craniotomy was restored to had also ended fatal. In several of these cases perforation was only employed because the child was dead, although there was sufficient room for the passage of the head; so that the results of this treatment were also most unfavorable for the same reason as when the case was left to nature. Dr. Playfair concluded by briefly reviewing the history of the other methods of treatment employed, such as turning and the Cæsarean section.

Dr. Hicks considered that the use of chloroform in these cases was of great service by lessening the expulsive action of the uterus, which constituted one great obstruction to the return of the tumor.

Mr. Spencer Wells said that in the case alluded to in the paper, in which he had succeeded in pushing a tumor up from the pelvis into the abdomen, a trocar had been introduced by the vagina; and on his ar-

Digitized by Google

rival he found the canula remaining in the tumor, but no fluid escaping. On making a freer opening, it became evident that the tumor was not ovarian, but a uterine fibroid. It was agreed that he should try to push it up before craniotomy or the Cæsarean section were discussed; and after the patient was well under the influence of chloroform the tumor was pushed up without much difficulty, and the accoucheur then readily delivered the child.

Dr. Barnes thought the paper one of great interest. He thought one subject of importance had not been sufficiently discussed—that was, the propriety of inducing labor when pregnancy was complicated with ovarian tumor. It might be laid down as a general law, that nature would not tolerate the concurrent progress of these two conditions. Nature could hardly bear the simultaneous growth of two tumors like the pregnant uterus and an ovarian tumor. Something must give way. He had observed three orders of events, which all pointed to the truth of this law and to the practice he recommended. 1. He had seen the tumor burst and the patient die; and in another case he had seen the tumor rotated on its axis so that the pedicle was strangulated, leading to rupture of vessels, labor occurring prematurely under the agony of death; or the uterus may rupture. 2. He had seen repeatedly premature labor occur spontaneously with good result. 3. The distress in breathing and hectic induced may be so urgent as to compel the physician to interfere. He had frequently acted in obedience to this law, and with the best results. The indication seemed to be clear in all serious complications with pregnancy to reduce the case to its simplest expression by eliminating one of the elements of complication. The most fitting element to remove was the pregnancy. This done, the ovarian tumor could be dealt with at a convenient time according to its special circumstances. In reference to the remarks of Mr. Spencer Wells, he asked whether, in some of the cases in which tapping had been resorted to, premature labor did not set in all the same? It was certainly incorrect to say that the child was necessarily lost by inducing labor.

Dr. Murray said that in a case of pregnancy complicated with ovarian disease which had come under his care he had induced labor at the end of the eighth month, and, under chloroform, had delivered by means of the forceps. The child was living. This course he followed, fearing that the cyst might be ruptured during the process of labor at the full time. His patient had been pregnant before, and it appeared that whilst pregnancy was going on the development of the cyst ceased, and it only enlarged after and between the pregnancies. He considered that operations of any kind, however simple, performed during pregnancy, tended to produce abortion or bring on premature delivery.

Mr. Spencer Wells said the question had several times come before him, in consultation on cases where an ovarian cyst complicated pregnancy, whether the patient should be left alone, or tapped, or premature labor be induced. He would be glad to learn from some of the accoucheurs present what they had observed in such cases, and he would say that the result of his own experience was strongly in favor of tapping. If the cyst were left alone, there was great risk that it might burst as the pregnancy advanced. He had known this to occur twice. He had repeatedly tapped ovarian cyst in pregnant women, and never saw anything unusual follow; and it appeared to him that inducing premature

Digitized by Google

labor must be more hazardous to the mother than tapping a cyst, while certainly it injured if it did not destroy the child. In reply to Dr. Barnes's question, Mr. Wells said that he had only once seen labor speedily follow tapping, and in this case it was probably only a coincidence.

The President considered that if the contents of the tumor were fluid, tapping was preferable to the induction of premature labor.

Dr. Playfair said that, with reference to the question of premature labor mentioned by Dr. Barnes, in none of the cases he had collected was it stated that the child was born before the full period. He did not doubt, however, that premature labor frequently occurred where ovarian tumor existed; but the child being small there would be little difficulty in the delivery, and, therefore, such cases had not been recorded. He believed that, as a rule, it was chiefly the smaller ovarian growths which were pushed down in front of the head. When the tumor was large it was more likely to remain within the abdomen, and would not be so likely to act as an obstruction. From this it resulted that such a complication would seldom be discovered until labor had actually commenced, and, therefore, there would be no opportunity for discussing the advisability of artificially inducing delivery.—*Lancet.*

Ovariotomy; when and how to Operate; After Treatment. Abstract from Remarks of E. R. Peaslee, M. D., at N. Y. Medical Journal Association, May 24, 1867. Reported by E. S. Belden, M. D.

Mr. President—Three years ago I presented a paper to the Academy of Medicine on Ovariotomy, which was published in its "Tansactions." My opinions as there expressed have not materially changed; but as some new things have been proposed since then, it is to these especially that I wish to call your attention this evening.

At that time there still remained some doubt in the minds of certain eminent surgeons whether ovariotomy should be recognized as a legitimate surgical operation or not. I then gave my reasons, and the statistical facts and arguments for the conclusion that it has as high a claim to be thus recognized as any other important operation, and I think very few would now be found to controvert it. During the past five years the operation of ovariotomy in the hands of experienced ovariotomists has done more in proportion to the number of cases operated upon, for the prolongation of life, and less to shorten life than any other surgical operation which can be at all compared with it in point of magnitude. The percentage of lives saved by experienced ovariotomists during this time is probably not short of eighty per cent.; and these are patients who are doomed on an average to die without the operation within twelve to eighteen months, and, who, if they are saved thus, are likely to live as long as other women of the same age.

A point then in connection with ovariotomy, of much interest is, that the operation is followed in a very few days, either by death, or, on the other hand, by life and health of indefinite duration, as just stated. If successful, it is to the woman a resurrection. A patient remarked to

Digitized by Google

me, "she felt as though she had commenced an entirely new life." The results suggest the expression of the poet:

"Aut cita mers, aut victoria læta."

If this operation is performed in a case which is uncomplicated, it is one of the most simple of surgical operations. On the other hand, if complicated in a high degree, it is the most difficult and formidable operation the surgeon ever attempts to perform. And not even the most experienced operator can certainly determine beforehand, whether he has a simple or a complicated case. Where he had expected no difficulty at all he may find a condition of things that will require all his coolness, deliberation, and caution, to enable him to get through without leaving his patient dead upon the table. I can say that ovariotomy sometimes demands more of all these qualities, and more care and judgment in the subsequent treatment, than any other I have ever attempted; though during seventeen years of my professional life I frequently performed all the capital operations. This peculiarity has not however been sufficiently recognized.

Encouraged by the facility of operation, and the frequent successes of the most favorable cases, many a physician has attempted ovariotomy, who would never think of attempting any other surgical procedure, not even the amputation of a finger. The results have been, as might be anticipated; the first case of real difficulty, or perhaps the second, terminating alike the operator's zeal and his success. It is, however, the fact that a simple case operated on at the most favorable time, will probably recover in spite of a large amount of operative bungling.

We all know the difficulty of diagnosis, in complicated cases, and the mistakes which have been made, but I omit this topic entirely.

The first question I will consider is, at what period in the development of the disease shall the operation be performed? The question lies of course between performing the operation early, while the patient is still in robust health, and deferring it until she begins to be somewhat reduced by the disease; no one would defer till she is just about to die in consequence of it.

Spencer Wells, and Baker Brown, maintain that the operation should be performed early, in full health. Mr. Hutchison, of London, says it should be performed "as early as possible." Baker Brown once performed this operation when the tumor had been detected only eight weeks before. The patient died on the ninth day. Mr. Erichsen, Tyler Smith, and Dr. W. L. Atlee, of Philadelphia, take the ground that this operation should not be performed at this time; but when at length the patient begins to yield to the disease; and in this opinion I concur.

The reason in general, for the first proposition, is that the patient endures a severe operation better if it is performed when she is in full health; a statement which I have not found to be substantiated by statistics—as shown in the paper to which I have alluded.

I cannot here specify all my reasons for deferring the operation till the general health begins to fail, but the following are some of them:

In the first place if the operation is performed upon a patient in full health, she is, other things being equal, more liable to peritonitis after it; and peritonitis destroys about one-fourth of all who die from the effects of the operation. Spencer Wells, operating on patients in full health, when symptoms of peritonitis appear, bleeds them, and in that

Digitized by Google

way has sometimes saved them. And certainly this is very judicious practice, if the operation is performed thus early; but I think it would be better to diminish the risk of peritonitis, by some delay. Besides, if the patient is in good health, she is certainly in no immediate danger; and we make sure of adding a certain amount of time to the patient's life by the delay. And we may often wait six months or a year, and find her still in as good health as to-day.

Again, if we wait, further opportunity is given to perfect the diagnosis; and every one knows how difficult this is in some cases. Even Spencer Wells, whom I saw perform his 174th and 175th operations last July, and who has now operated over 200 times, still pronounces his diagnosis with caution. But he waits and re-examines the case until he feels very positive; and he has very seldom had to record a mistake. If we wait till the abdomen is largely distended with fluid, it may become necessary to tap her, though still in pretty good health; and this operation may at once clear up all doubt, if any before existed, whether the case be one of ovarian tumor. If the tumor be one which can be very much diminished by tapping, *i. e.*, if there be one or more large sacks—I make it a rule to tap before deciding as to the operation of ovariotomy. Many of the tumors in this region, at first thought to be ovarian, are not so, but are cured by a single tapping. I have had two such cases, and consider this a very important point.

A patient, the wife of a professor in one of the Western colleges, called on me some years since, who had seen three or four of the most distinguished surgeons and physicians in this city, all of whom had pronounced her case one of ovarian tumor. I examined her case thoroughly, and had not the least doubt that it was such. She went to a distinguished surgeon in Massachusetts, who had no doubt as to its nature, and offered to remove it immediately if she wished. I declined to do anything in the case till tapping should be required; after which it would be time to decide respecting ovariotomy. A year afterward, the tumor began to interfere with respiration and digestion, and I considered that the time for tapping had come. I tapped her, but there was no ovarian tumor; and no farther operation was required. The uterus, prolapsed by the pressure of the fluid, soon regained its normal position, under appropriate treatment. She gave birth to a child about seventeen months afterwards; and has now enjoyed perfect health for the last five years. The sac was one of those developed in the broad ligament.

I have had another case like the preceding; and by waiting and tapping I found a similar sac, instead of an ovarian tumor, and that no farther operation was required.

Spencer Wells has noted a few cases where he had tapped tumors of this kind with the same result.

The fluid contained in these sacs is as transparent as water, and contains no albumen (certainly in most cases), and has great refractive power. It is entirely different from the ovarian fluid; especially in the fact of the absence of albumen.

Another reason for waiting, is, that the success of the operation is greater, other things being equal, if the tumor is *large;* and this for two reasons, I would not be willing to remove an ovarian tumor that was of the size of a fœtal head in a person of ordinary health.

Digitized by Google

1. If the tumor is large, by its constant pressure upon the peritoneum, the latter is rendered more insensible to irritation and consequent inflammation.

2. And another reason for not operating when the tumor is small, is, that if after the incision is closed up, if the patient should vomit or cough, there may be trouble from straining the muscles, or even from a hernial protrusion through the wound. The latter occurred in one instance where I removed a fibrous tumor of the uterus, and the patient died in consequence. She had a severe cough at the time of the operation, and which she had concealed from me by taking opium, knowing that I would not operate if I discovered it. Three or four hours after the operation she began to cough violently. This I could not control; and the consequence was, a hernial protrusion between the needles, although they were but half an inch apart. As I was sixty miles from the patient when the hernia occurred, the bowel mortified before it was reduced, and she died six days after the operation.

As an argument against the assertion that a person in full health bears this operation, or any severe operation, better than when somewhat reduced in health, consider the following fact. If we divide the amputations of the lower extremity into two classes; first, operations performed upon persons in full health, as for elephantiasis, or in consequence of accidents, etc., called amputations of expediency or of necessity; and second, operations performed upon patients somewhat exhausted by disease, called expediency, pathological amputations, as those for disease of the joints, etc. It has been found that while in patients of the first class (amputations upon persons in full health), 42 per cent. die; in amputations of the second class, only 14 per cent. are fatal. An operation upon an ovarian tumor, while the patient is in full health, is literally as well as logically an operation of expediency; and here, as with amputations, the best time for operating is, when the health of the patient is somewhat reduced. No ovariotomist has had better success than Dr. Tyler Smith, and he acts upon this principle, as I have before stated.

I have now under my observation some ten cases; some of which I have kept waiting a year or more; while others who, determined to have the operation performed, have found those willing to operate, have succumbed. I have not yet had to regret deferring the operation, as I have explained.

In regard to the operation of ovariotomy itself, I can here only consider the incision; and the manner of treatment the pedicle of the tumor removed. In regard to the incision, the rule is, that it at first should not be more than one or two inches long, through the peritoneum, but somewhat longer of course through the skin, etc., than internally. Next I pass a steel bougie into the peritoneal cavity, and around the tumor, if possible, to ascertain if there are any adhesions. Afterward the incision is to be enlarged, or not, as may be required; the rule being to leave it as short as will answer the purpose. It should, however, always be regarded as merely explorative, until the operator has decided that the tumor is to be removed. If he finds that there are extensive adhesions, or especially if to the alimentary canal, uterus, or bladder, it is very much better to make a long incision at once, that the adhesions can be seen before they are torn across; else they may be torn from the intestines, bladder, or uterus, instead of from the tumor, and troublesome hemorrhage may take place into the cavity of the peritoneum.

Digitized by Google

The tumor having been taken away, how shall we treat the pedicle? If the pedicle were in no danger of bleeding after its division, all operators would agree that it should be returned into its natural position, and the wound be closed up. But the *only* thing that we can rely npon, to prevent hemorrhage from the pedicle to the greatest possible certainty, is a ligature tied in a knot. If we have tied it tight enough to stop the circulation there, even for a few minutes, we may feel very sure it will serve us, unless it subsequently slips off. I shall consider other methods further on.

But if the ligature is used, then the question arises whether it should be cut off short or left hanging out of the wound. The objection of Spencer Wells, to the ligature, is, that it always produces a sloughing of the stump of the pedicle. (The ligature being doubled and carried through the middle of it, one half is inclosed on each side.) "If it is cut off short, the result will inevitably be," he thinks, "that the ligature and the stump of the pedicle will slough off and remain in the abdominal cavity." But if the ligature is not cut short, of course it will be all the same so far as the slough is concerned.

Spencer Wells has even suggested the idea that, on the whole, it would be better to leave these ligatures coming out of the lower end of the wound; since inasmuch as there must be a slough, the dead, putrefying matter thus formed in the abdominal cavity, in this way, finds a conduit, which, by capillary attraction will drain it off.

Dr. Bouth, who also takes the same view, made some experiments upon the lower animals, and found that dead meat, even if fresh, in the abdominal cavity produced a low putrid fever, of which they died.

It is, however, a fact, that as large a proportion of the women treated in this way, by ligature have recovered, as of those treated by other methods; and it is also true that most of them had no symptoms of low fever. None of my patients have had any such symptoms, except as evidently produced by other causes, and I have always used the ligature.

Dr. Tyler Smith operated upon eight patients, with the ligature cut short, and they recovered without any symptoms of low fever at all.

And the very fact that patients do recover thus without fever, shows that no absorption of putrid matter has taken place, and therefore that no such has been formed. This was the conclusion I arrived at three years ago, when I read the paper to which I have referred. I have since had opportunity to demonstrate its correctness.

My first six cases were treated with ligatures, the end hanging out of the incision, and they all recovered. Since then, I have had an opportunity of examining two of my own cases that terminated fatally, in which I applied the ligature, and cut it short. They both died seventeen days after the operation. I have also examined another case lost, by another operator, after similar treatment of the pedicle. In none of these cases did any slough occur. In one instance, the ligature had actually cut off the portion which was included in it. In another, it had cut it to that extent, that there was left only enough to half fill the loop; and in a third, the ligature was so entirely covered up, that I could with difficulty find it. But in every case there had been an exudation of plasma over the stump and ligatures, which had nourished the part which was beyond the ligature, and attached it to the living tissue in its

Digitized by Google

neighborhood. I state, therefore, without any hesitation, that I consider the point demonstrated, that there is no slough of the pedicle when we put a ligature around it, as I have explained. And, if there is no slough, what is the use of leaving one end of it hanging out of the wound? It seems to me, at the present time, therefore, that the best way to treat the pedicle is, to apply the ligature, cut it short, and close up the whole incision. Still, Spencer Wells most frequently used the clamp, though he recently stated that he is not yet decided which is the best way to treat the pedicle. I cannot here speak of the relative merits of the clamp, nor can I recommend the ecraseur, though it has several times succeeded.

The actual cautery has been applied to the pedicle by several operators, but more frequently, of late, by Baker Brown. Nearly a year since, I saw him perform his 101st and 102d operation of ovariotomy, and 32d and 33d, in which he had applied the actual cautery to the pedicle. In one of the two cases, the bleeding was not arrested by the hot iron; and he then applied the ligature in the common way, and cut it short. The same has been done in several previous cases; and, of course, all these should have been reported as cases of treatment with the ligature, and not with the actual cautery.

Finally, it may, in time, be demonstrated that the ligature is preferable in one class of cases, the clamp in another, and the actual cautery in a third. Meantime, I hold this up to the present time, the ligature, as an exclusive method, is to be preferred.

Before closing up the wound, it is a question of much importance whether the blood, and other fluid emptied into the peritoneal cavity shall be sponged out or not. My opinion is decidedly that it should be. In every case of my own, I have undertaken to remove every drop of fluid. I lost one patient from septicæmia, produced by a small amount of blood becoming decomposed, which flowed from the omentum after the operation. I see no reason to doubt that the patient would have recovered if the blood had not been there. I have had three cases in which the patients must have died, if I had not reopened the incision, and washed out the putrified fluid in the peritoneal cavity. My idea has long been, and still is, that where, on the one hand, there is no danger in putting into the peritoneal cavity, a sponge, first dipped in warm water; on the other hand, it may be of the greatest importance to do this. The peritoneum should be included in the sutures closing up the incision. If we leave the edges of the peritoneum gaping, as they will do otherwise, we will have a granulating surface, and the intestines, wherever they touch this surface, become adherent to it. Experiments on the lower animals have shown this. Then, when the pus forms, it falls into the peritoneal cavity and septicæmia will probably ensue. But I close with a few remarks on the after treatment.

I consider that there is much more responsibility attached to the after treatment of a case of ovariotomy, unless it is a very complicated one, than there is to the operation itself. I suppose I have been urged to perform this operation at least one hundred times, where I have declined, because the circumstances forbid my taking charge of the after treatment. In assuming the after treatment of a case, I consider that I am incurring at least three-fourths of the responsibility, and nine tenths of the anxiety.

Digitized by Google

In regard to opiates, I think just enough should be given to keep the patient free from pain, and comfortable; not enough to stupefy. I like the action of McMunn's Elixir of Opium, better than any of the other opiates, administered by the rectum if the stomach is irritable. I do not use strong doses of opium as soon as the operation is over, as I consider this objectionable. The patient should be allowed to regain her consciousness as soon as the operation is over. The operation, as well as the ether, has been depressing enough, and nothing more of the kind should be given until we see whether the patient is going to rally or not, and then is the time to give the opium. I have sometimes given a patient only thirty drops of McMunn's Elixir for the first two or three nights, and no more during the treatment. Baker Brown and Spencer Wells have given up the idea of large doses of opium immediately after the operation.

After the first week is over, very little is to be done, under ordinary circumstances. If septicæmia sets in from decomposed fluid in the peritoneal cavity, I would re-open the incision. I know of no better treatment sufficient to allow the introduction of an elastic bougie, and inject blood-warm water, and let it at once return. The mixture of water and the putrid fluid cannot be as injurious as the fluid alone. The first time that I acted on this idea (in 1855) the patient was stupefied by the poison. I injected one quart of water, and she immediately looked up and said she felt as though she had taken a bath. I relieved her in this way every day for a week, using two quarts to a gallon of water at a time. When I found the fluid very fetid, I used the *liquor sodæ chlorinatæ*, in the proportion of two drachms to the pint of water; finally, it returned without any odor at all, and from that time commenced a perfect recovery. In another case I resorted to these injections once or twice daily for fifty days: and, in a third case, I injected one hundred and thirty-five times in seventy-eight days. These three patients recovered, though I feel positive they would all have died, had not the decomposing matter been washed out of the peritoneal cavity. I also combined with the injections, the sulphate of quinine, and the hypo-sulphite of soda.—*Medical and Surgical Reporter.*

Case of Complete Inversion of the Uterus After Delivery: By Dr. INGLIS.

IN the beginning of February last, I was called to attend a patient at her first labor. I was told on arrival that she had been quite well till three hours before, when the pains had come on suddenly and with great vigor. She seemed to be a well-made, strong, and healthy woman, but perhaps a little inclined to be of a relaxed habit of body, in consequence of having lived for some time in a hot climate. The character of the pains suggested that the second stage had begun. Examination of the abdomen showed that the limbs of the child were in front, and I thought I could detect the face near the right groin. On examination per vaginam, the os was found to be nearly dilated, and the membranes were stretched tightly over the head. The anterior fontanelle and right

Digitized by Google

ear were easily reached, the ear being near the pubes, so that it was plain that the face really was near the right groin. The head seemed to be pretty large and the pelvis also was above the average size. About half an hour after, the membranes ruptured, and the os had entirely disappeared, while the perinæum became distended till a portion of the scalp protruded. The pains continued strong and regular for about three hours, the head being retracted again between each pain; it came gradually round however, and at the end of that time was not far from being in the proper diameter. After this it ceased to progress, and as she had been under chloroform for three hours, I discontinued its use, least it might be the cause of the delay. The discontinuance of the chloroform, however, did not increase the pains, so, after an hour, it was again given without producing any alteration in their character, nor was the position of the head improved. The forceps were therefore applied, and the head pulled down gently, and rotated into the proper diameter; the head also was detained from retracting during the interval which preceded the next pain. After this, believing that there was sufficient power left to complete the labor, the forceps were taken off and laid aside, and after five or six strong pains, the child was born by the natural efforts. While waiting for the tape and scissors, I noticed some trifling peculiarities in the cord, which was very long, and while looking at it, it became distended in consequence of a strong pain, and I turned the bedclothes aside a little, and saw that the placenta was being expelled. After tying and cutting the cord, I proceeded to lift away the placenta, which was quite beyond the external parts, but found it detained just as might happen when the membranes remain behind. The mass, however, was thicker and firmer than usual; and, when handled, seemed to give great pain, even though the patient was pretty well under the influence of the chloroform. I tried to pass two fingers into the vagina to discover the cause of the detention, and at once recognised the nature of the accident. The cone-shaped mass of placenta, with the funis at its apex *contained the uterus*, which was completely inverted and expelled beyond the external parts, while the neck of the tumor, which had seemed to a certain extent like the membranes, was a portion of the vagina also inverted, or perhaps the cervix very much attenuated. Part of the placenta was separated, and part morbidly adherent, and there was a little bleeding going on. As the whole mass, consisting of uterus and placenta, was too large to be returned easily, I peeled off the placenta, and then tried to reduce the protrusion. The uterus, when denuded of the placenta, was about the size and shape of a soda water bottle, and seemed smaller than an ordinary uterus appeared to be when felt through the abdominal wall, but when returned into the abdomen it proved really to be smaller than usual. The reduction was rather difficult and tedious. I began first with the cervical portion, but this did no good. The whole uterus was therefore gently compressed, and a depression was made in the fundus with both thumbs, and the pressure was continued for some time. The yielding was very gradual, and the uterus did not lose its tendency to invert till it was entirely replaced from within, and grasped from without. The pulse, when I had leisure to examine it, was 80, the same as it had been a short while before; and the expression of the face was the only thing that seemed to indicate that anything was wrong. She did not awake till all was replaced, and then only complained of some slight after-pains. These ceased in

Digitized by Google

about half an hour, and after that she slept well for five or six hours at once. Two days after, there was great tenderness along the track of the colon, but this was relieved at once when the bowels were opened, nor did it ever cause any constitutional disturbance. About a week after, she had retention of urine for two days, but she had so much dysuria while pregnant, that I can scarcely connect the retention with the inversion. With these trifling exceptions her recovery was good.

Had this been only an ordinary sample of *inversio uteri*, I should not have detailed it at such length, but the peculiarities of the case make it one of great interest. Such extreme inversions with little or no shock is by no means common, nor have I heard of any case where the expulsion was so gradual, or where the resistance to taxis remained after the greater part of the organ had been re-inverted.

There is one point more I should like to draw attention to, viz., the presentations. I have seen or been told of nine cases of more or less complete inversion, and in seven the head presented with the occiput posteriorly, and then came, or was brought, round to the ordinary position before delivery. The other two happened before my informant arrived, so that the presentation is unknown. In like manner, I have collected fifteen cases of violent projective expulsion of the child, and all of these were preceded by the same presentation and subsequent rotation of the head. We also meet frequently with occipito-posterior presentations where, after rotation, the delivery is unusually short. I have only been able to ascertain the presentation in two out of three cases of hour-glass contraction, and in both the occiput was posterior and came round before delivery. The third happened after the child had actually been *thrown* to the foot of the bed, and the cord broken by a strong pain. The medical attendant was just entering the house when this took place, so that the presentation was not ascertained.

I may also add, that though these cases I have referred to are not numerous they are all I have been able to hear of, and I have not been able to hear of any similar ones where the presentation was *not* occipito-posterior; in fact, from all I have gathered, the only ones that could by any possibility have been exceptions to the rule are the two of inversion which occurred before the arrival of my informant, and the one of violent projection and hour-glass contraction, just related, which also took place before examination.

From a careful consideration of these cases, I am inclined to believe that in them the rotation of the head led to the inversion. By rubbing round against the inner surface of the cervix, the head produces an excessively complete and extensive dilatation, and in time it also brings on an increased expulsive action, which may become inordinate. In fact, it produces much in the same manner, but to a greater extent, the same results which we expect to follow manual dilatation. The increase of the protrusion, produced by the the altered position of the head, must also be an additional stimulus to expulsive action. If, then, expulsive action should come on in such a case before the cervical portion of the uterus has regained its tone, either hour-glass contraction or inversion of the uterus will certainly follow.—*Edinburgh Medical Journal.*

Digitized by Google

Excessive Lactation and its Effects.

MANY patients suffering from the effects of excessive lactation present themselves in the out-patients' room. I propose to notice some of the facts relating to these cases, and to offer some remarks on the bearings of the whole subject—an important one from whatever point of view we regard it.

The process of lactation constitutes a great drain on the system. A woman in health and of good constitution will suckle her child, and for some considerable time, without experiencing any bad effects; but, under other circumstances, this long-continued supply of food to the infant is productive of very injurious—and not seldom lasting—effects on the body and mind of the individual.

The ability to carry on the process of lactation varying very considerably, the symptoms due to over-lactation set in at very different periods in different cases. Thus, of eight out-patients of the hospital, and whose cases have been taken at random as illustrations, in one the patient applied for relief at five weeks, in a second at two months, in a third at two months, in a fourth at three months after the birth of the child; in the remaining four cases the women had suckled their children for periods respectively of five, thirteen, fourteen, and nineteen months. These figures give roughly some idea of the time when symptoms calling for medical aid are observed.

The actual symptoms of excessive lactation are next to be considered. The account which follows is an abstract of the notes referring to these eight cases.

One of the most constant symptoms is the presence of an aching pain in the back; often pain is felt across the shoulders and on the top of the head or forehead. Great pallidity of the skin is generally observed. A marked symptom is want of sleep; the patient will often tell you she has had no sleep for a week, or, when she does sleep, that she is awakened by frightful dreams. There is marked and great debility. The appearrance and expression of the face is peculiar in these cases, sometimes remarkably so; it conveys an idea of intense bodily prostration.

The mental changes are worthy of special note. There is almost constantly extreme depression of spirits; the patient feels as if she had lost all life and energy; she is desponding and miserable. We have before us, in fact, symptoms which are the possible precursors of a malady of great gravity—viz., puerperal mania. Aberration of mind may occur in connexion with, or as a result of, the exercise of the uterine parturient functions at two periods—viz., as the immediate result of the labor, or later, when the system is debilitated by excessive lactation. It is more frequently a result of excessive lactation, and the necessity for recognising the first symptoms of this disease is obvious, being, as it is, preventable. The mental disturbance now under consideration generally takes on the form of melancholia; the delusions relate mostly to subjects of a religious character. A lady under my care became the subject of a very severe attack. She had suckled her child for upwards of a year, and had most imprudently taken some very long walks with her husband while suffering from menorrhagia. She became excessively weak and ill. Delusions to the effect that she had committed the unpardonable sin, that she could not be saved, and the like, possessed her. This case is an instance of the condition to which a patient may become reduced from

Digitized by Google

the excessive drain of unduly prolonged lactation. The menorrhagia in this instance was due to the excessive lactation.

The headache in cases where the cerebral functions are suffering from the effects of excessive lactation is situated at the top of the head, and it is worthy of note that this spot may be noticed to be perceptibly hotter to the touch than other parts of the head.

In the eight cases forming the basis of these remarks, the patients had all presented symptoms indicating want of vital power. The mental symptoms had not in any one of them passed beyond the stage of extreme melancholy. There had been no delusion, but the disease was not less important by reason of this. Some of these had become so reduced that many months will propably be occupied in repairing the mischief which had been done. [Two of the patients who had been some little time under treatment, and who had been greatly benefited, were shown to the class. They still exibited, though in a less marked degree, the conditions above described.]

The treatment.—To wean the infant is obviously the first indication. When should this be done? We have to consider, it must be recollected, the infant as well as the mother. The infant requires breast-milk for the first month or six weeks. Experience has shown the great difficulty of rearing children from the very first without it; but it is also the result of experience that an infant nourished with breast-milk for that time may afterwards do tolerably well without it. Hence the conclusion, that a mother may pretty safely—for the child—wean it at the age of six weeks or two months. A woman presenting evidence of suffering, such as those above related, should not be recommended to prolong lactation after this period. And in large towns, amongst the destitute classes, this principle appears to be the best that can be laid down. Cases now and then present themselves in which we would hesitate to recommend the process of lactation to be continued so long as a month or six weeks; there are others in which lactation seems altogether improper from the commencement.

The next important indication is to procure sleep. For this purpose one or two grains of opium may be given at bedtime, and it may be necessary to order the patient ten minims of Battley's solution of opium once or twice during the day. When mania has actually come we rely a great deal upon opium; in the form of the bimeconate of morphia it is very applicable in such cases, and very large doses are required. Not less important is the administration of good food. In most of the cases the subjects of these remarks, the patients had been very insufficiently fed. The diet ordered should consist of the most nourishing and easily-digested food: meat twice or three times a day if it can be taken, or eggs, milk, and beef tea. Stimulants are required, sometimes in large quantities. In the case of the lady suffering from religious mania the effect of excessive lactation, before referred to, the patient took not only stout in large quantities, but wine and brandy daily, and for a considerable time both during the attack and during the convalescence. The less severe cases must be treated on the same principle.

In all cases where there are any symptoms of mental alienation, or even where the patient is profoundly melancholy, she must be closely watched. Absolute rest must be enjoined. In all cases also, as may be gathered from what has been already said, whether there be signs of mental alienation or not, tonics—iron, quinine, or bark—are indicated.—*Lancet.*

Digitized by Google

Obstinate Vomiting caused by the presence of a Foreign Body in the Uterus. (Pacific Medical and Surgical Journal.)

Dr. James Blake narrates the case of a lady, 22 years of age, in whom vomiting began immediately after an application of some kind had been made to the uterine cavity. The surgeon attending her re-introduced the speculum after it had once been withdrawn, in order, as he stated to remove a piece of cotton which he had left in the womb. Dr. B. saw her three days subsequently, and during this time the vomiting had been persistent, and the stomach was intolerant even of minute quantities of ice or cold water. Medication controlled the vomiting only for very brief intervals and the patient's strength was being rapidly exhausted. Nutritive and opiate enemata were used. On the second day of Dr. B.'s attendance a vaginal examination was made in the expectation of discovering some foreign substance, but none was found. The neck of the uterus was engorged and inflamed, and the os patulous and the body retroverted and flexed. The following day menstruation came on, and the vomiting was not quite so constant, but nothing could be retained on the stomach. The patient was kept alive for three days on brandy, champagne, and the nutritive enemata. At the end of this time, which was nearly coincident with the cessation of the catamenia, the stomach became tolerant of food, and the patient gradually recovered. Three weeks subsequently another vaginal examination was made, and a piece of cotton (such as is used for applying caustic to the interior of the cervix) was found in the vagina. Dr. B. attributes the vomiting entirely to the presence of this foreign body, and remarks that the case would tend to show that the vomiting of pregnancy is due merely to the mechanical irritation produced by the fœtus, and not to any changes in the uterine system accompanying pregnancy.—*New York Medical Journal.*

DISEASES OF THE EYE AND EAR.

Considerations upon Otorrhœa, particularly in Children, and upon a New Method of Treatment. Communicated to the Imperial Academy of Sciences, April, 1867: By M. Bonnafont, Corresponding Member of the Academy. Translated from l'Union Médicale of July 2d, 1867.

All persons are not equally predisposed to this affection; in general, we observe it most frequently in constitutions that are lymphatic, strumous, gouty, etc. There are some exceptions to this rule; thus the affections of the ear are often developed after a cutaneous eruption, as scarlatina and rubeola, more particularly after the last, without our being able to give the reasons for this preference.

The age at which this kind of otorrhœa ordinarily manifests itself is from six to ten years, sometimes sooner, but rarely later; it is at this time, therefore, that we should hasten to direct an energetic treatment

Digitized by Google

against the disease, for the simplest piece of negligence, on account of the susceptibility and delicacy of the organs of hearing, may allow the most serious lesions to encroach upon this apparatus. At this age, indeed, it is not the deafness alone that is to be dreaded, but even dumbness as the inevitable result of the loss of hearing. Nearly one-third of the children who are found in the establishments for the deaf and dumb, both in France and in foreign countries, owe their infirmity to nothing but the destruction of the apparatus of the middle ear, by neglected otorrhœas; while it is probable that if these children had been subjected to suitable treatment at the proper time, it would have been successful, at least in a large number of them, in arresting the progress of the disease, and in preventing thus an infirmity henceforth incurable, which must ever cause grief to the parents' heart.

Prognosis.—The prognosis of this affection is, we think, according to the extent or the seat of the lesion; thus the inflammation may occupy the whole surface of the canal, and it may present less of gravity than if it occupied a position even the most limited, in the neighborhood of the tympanum; in the first case the ear may be for a long time diseased without inducing any disorder of the hearing, while, in the second, it is rare that the tympanic membrane, whether by the continued contact with pus, or by the extension of the inflammation, does not finish by injuring itself, and by compromising, later on, the function of the organ. Besides, another circumstance which renders these ulcerations at the bottom of the canal very much more serious than those which are developed in the regions nearer to the meatus, is this: we know that the glands which secrete the cerumen do not extend beyond the external two-thirds of the canal, and that beyond, the flesh is extremely slight, very red, very sensitive, and applied almost directly upon the bone, from which it is separated only by a very thin layer of cellular tissue. It follows, from this anatomical disposition, of the greatest importance in auricular pathology, that all that portion of the canal which is provided with glandular tissues may be for a long period diseased, without the subjacent bone being affected; while, in a region lower down, the slightest ulceration of the skin attacks, pretty soon, the periosteum and the bone, if we do not promptly arrest its progress. * * *

Treatment.—The first indication to be fulfilled consists in making a careful examination of the canal, in order to ascertain the seat of disease and the degree of its extent. But in general, when we are consulted, it is seldom that the patients, large or small, have not the canal obstructed with matter; it is on this account that we must devote three or four days to these preliminary cases, consisting in cleansing perfectly the canal and in freeing it from all the matters which may conceal the ulcerations; it is for this purpose that I recommend the patient to take, three or four times a day, ear baths of poppy water, then to make with the same liquid, injections, pretty strong, so that the liquid, in returning upon itself, may bring with it all the foreign matters. * * *

So long as there is no suppuration, it is less essential that the injections penetrate into the interior, but the case is different when pus is being thrown out from an ulcerated surface, especially if deeply situated. We can easily understand that if, while the meatus is obstructed by the engorgement of tissues, the suppuration accumulating in the lowest portions of the canal, will compress the tympanum, will cause its lacera-

Digitized by Google

tion, and later on, its destruction, as well as that of the apparatus of the little bones.

It is to avoid a similar accident, that I have employed for many years small dilating canulas of caoutchouc. Whatever may be the narrowing of the canal, we may always cause a little sound, previously coated with cerate, to glide in; and when this has been introduced, we can easily cause others of larger size to penetrate. But before replacing a sound by another, we should take advantage of the opening already made to use injections, and to relieve, as much as possible, the bottom of the canal of the purulent matters which may be found there. * * When the discharge resists our endeavors and threatens to pass into the chronic form, the local treatment should be conducted in the most energetic manner, and by a succession of the means I have indicated. We must always commence by satisfying ourselves, by the use of the otoscope, of the region which the lesions occupy and whence the pus proceeds; when we have recognized the diseased point, we should at once cauterize with a small crayon of nit. silver, such as I use. These little cauterizations, made with care, cause very little, if any pain, and can be repeated every second day.

In the interval we may use astringent and styptic injections, with acetate of lead, of the strength of 1 gramme to 100 grammes of water, sulphate of zinc of the same strength, or, which is excellent, sulphate of alumina, of the strength of 2, 4 and even 6 grammes to the 100 grammes of the liquid. This last is what I most frequently employ, especially since, having tried it in the hospitals in gonorrhœa, it has given me very satisfactory results. * * * * *

When this malady appears in a strumous subject, or in a lymphatic constitution, it is very evident that, in this case, we should unite the local treatment with an internal medication, the energy and activity of which must be proportioned to the degree of the lymphatic character of the individual. The local treatment, without being neglected should be conducted with prudence, and should follow the modifications produced by the constitutional treatment. If, on the contrary, otorrhœa be engrafted upon a sanguineous constitution, M. Kramer counsels, with reason, that we should not attend to the general condition, but should treat the case by purely local means. * * * *

In order that medication should be applied in a rational manner, it is necessary to see the parts affected; for it is not an indifferent thing to cauterize healthy tissue, the tympanum particularly. It is for the purpose of facilitating this examination for a large number of physicians, that I have caused to be made a novel otoscope, very simple, which does not require the assistance of any lamp, and whose shape renders it very portable. This instrument will be found of equally felicitous application in the examination of other organic lesions, such as those of the neck of the uterus, etc. * * * * *

This instrument has the great advantage of only occupying one hand, of allowing every kind of inclination to be given to the light, and of illuminating the bottom of canals very obliquely situated, by directing into it a very intense luminous ray.

This otoscope is composed of two tubes: the vertical one, which serves as a handle, contains a small wax candle, such as is used to light up the little altars in the month of May. This tube is pierced

Digitized by Google

at the bottom with many apertures, in order to allow the passage of air, which is necessary to nourish the light. The other tube, forming the principal body of the instrument, presents at its superior part a large opening corresponding to the axis of the vertical tube, and by which the flame of the candle escapes. Its posterior extremity is guarded by a small reflecting mirror in platinum, and the anterior by a bi-convex lens, the power of refraction of which has been calculated so as to make a very great concentration of the flame at the greatest possible distance, in order to fulfill the two following conditions: 1. To cause the greatest possible light to penetrate to the bottom of the auditory canal, notwithstanding its narrowness; 2. Then to leave between the illuminated point and the instrument sufficient space to allow not only of seeing well, but also, with the other hand, to perform in the canal or on the tympanum any operation that may be deemed necessary. This tube may be lengthened or shortened, in order to give to the luminous ray, a greater or less concentration, according to the cavities we desire to illumine.

The tubes may be taken apart, and one made to inclose the other, the instrument then is very compact and very portable.

Ossification of the Cornea. From the French M. le Docteur Desmarres, Paris. By Wm. Mason Turner, B. Ph., M. D., Philadelphia.

This malady is not common, and but rarely does the degeneration extend to the entire membrane. However, as we have seen on a preceding page, there is preserved, in the museum of Walther, at Berlin, an ossified cornea, which measures in length seven millimetres, and five in breadth, and which weighs ten centigrammes. Some authors think that the osseous transformation here is nothing more than simple lithiasis, but there is nothing to justify this decision. When the affection is seated in the superficial laminæ, the opacity is most often due to deposits from collyria, which is covered over by false membranes

Sometimes the cornea and the sclerotica are ossified together; such is a case reported by Anderson, in which a *tache*, resembling a foreign body, protruded into the anterior chamber, and extended from the superior part of the cornea to the posterior and internal face of the sclerotica. This osseous plate was extracted by means of pincers, a small circular section having been first sliced off the cornea. Mr. Mackensie reports this case in his work. He thinks, with reason, that it was occasioned rather by a luxation of the crystalline lens and of the capsule, which was partially ossified. A double circumstance justifies this opinion: the affected eye was smaller than the other, and the disease dated from a fall, fifteen years before, from which a direct lesion of the eye had taken place.

Middlemore (*Thèse Médico-Chirurgical, Revue*, Oct., 1837) reports an observation, which seems to leave no doubt of an osseous plate, having its seat between the laminæ of the cornea. It was extracted by means of an incision, and the eye, which for so long a time had been inflamed by the presence of the foreign body, was cured completely.

Digitized by Google

M. Darcel has likewise published a case of the cornea (*Journal hebdomadaire, t., IV*, première série). He describes this bit of pathology in the following terms: "The cornea, in the centre, presented an ossification of the whiteness of milk, very hard, brittle, of the size of a lentil, occupying the entirety of the thickness of the cornea, and making a slight protuberance under the crystalline lens. This ossification was situated in the centre of a circle, *entirely opaque*, and corresponding exactly to the pupil; the rest of the cornea presented likewise an opacity, but it was much less marked—the other portions of the eye appeared sound."

A Method of operating for Divergent Squint: By C. R. AGNEW, M. D., Lecturer upon Ophthalmic Diseases at the College of Physicians and Surgeons, New York.

THE method is as follows: The patient having been placed upon his back, and under the full influence of an anæsthetic, and the eye to be operated upon exposed by the wire speculum, an assistant draws the cornea as much as possible towards the outer canthus by catching the tissues over the tendon of the external rectus muscle in the blades of a pair of fixation forceps. The operator then makes a horizontal opening over the internal rectus muscle, midway between its borders, and extending from a point one line distant from the cornea down to the semilunar fold. This opening should be made by lifting a vertical fold of the conjunctiva and sub-conjunctival tissues with forceps, and cutting it with scissors in a horizontal direction. If care is exercised, the internal rectus muscle will be exposed without any difficulty, or the occurrence of much bleeding. The next step is to secure the entire tendon of the muscle which is to be brought forward. This is especially essential in those cases in which the divergent squint has been the result of the operation for convergent squint, for in such cases the tendon and theca, having been much haggled in the original tenotomy, fall back irregularly, and, being split more or less, from false insertions, which are zigzag or interrupted.

After the apparent insertion of the muscle has been brought into view, a strabismus hook, having an eye drilled in its free extremity, and armed with a waxed silk, is made to sweep beneath it, from below upwards, care being taken to keep the instrument in close contact with the sclerotic, and carried so far back as to include every straggling band of muscle or theca which is to be advanced.

The uplifted mass should then be tied close to its sclerotic implantation. The next step is to divide the external rectus muscle freely through a horizontal wound in the conjunctiva, and thus complete the preliminary steps for the advancement of the internal rectus. The latter step is effected as follows: The operator, holding the ligature firmly in one hand, should cut with scissors the insertion of the muscle and gently break up any bands of connective tissue, which may attach it to the sclerotic. As he does this, he should draw upon the ligature and sway it from side to side until it becomes evident that any adhesions which might obstruct the advancement of the muscle, have been over-

Digitized by Google

come. He should now estimate the amount of adduction which may be necessary to cure the divergence. This he can do by catching with forceps the sclerotic edge of the cut tendon of the external rectus and drawing the cornea towards the inner canthus, while he holds up upon the stretch the muscle to be advanced. The retentive sutures are now to be placed. For this purpose two delicate, short, and sharply curved needles are to be armed with fine, well waxed silk, and adapted to a needle-holder.

Having measured the extent to which the eye-ball must be adducted in order to correct the divergence, the sutures should be passed as deep in the muscle and theca as may be necessary. The muscle and theca should be drawn well out and kept upon the stretch, so that the sutures may be passed as deeply as possible behind the caruncle, to secure a firm hold, and to leave a somewhat longer mass between the perforations made by the sutures and the ligature upon the cut end of the muscle than the original divergence measured. The course of the sutures should be perpendicular to the plane of the muscle, one passing through near its upper margin, and the other near its lower. After the sutures have been placed in the muscle the end included in the ligature should be cut off, care being taken to leave enough to prevent their tearing out. The amount cut should nearly equal the degree of divergence to be corrected, allowance being made for shrinkage which has followed the detachment of the muscle from the sclerotic. The next step is to carry the sutures beneath the conjunctiva above and below the cornea. It is better to place the upper suture first. This also requires the curved needle. The point aimed at in carrying the needle along the sclerotic, beneath the conjunctiva, should be about a line above the cornea and over the centre of the line of implantation of the superior rectus muscle, and there the suture should emerge. Before tying the upper, the lower suture should be brought out at a corresponding point over the inferior rectus insertion. While the operator is cautiously tying the sutures, his assistant should, catching hold of the insertion of the external rectus, carry the cornea towards the internal canthus as much as possible, and thus effect what may be considered the real intention of the operation, namely, to adduct the eye strongly, and place the end of the *shortened* internal rectus in coaptation with the sclerotic at or near the natural line of sclerotic implantation. The exercise of a little care will cause the muscle to spread out and be hidden behind the horizontal pillars of the wound, through which the retentive sutures have been carried, and thus insuring a consolidation of the wounded parts, obtain the aid of the subsequent cicatricial contraction of the soft parts intervening between the cornea and the caruncle in the ultimate result. Whether this method be adopted throughout or not, I am quite sure that the use of the strabismus hook, armed with a ligature, will be found of great advantage in getting control over the tendon to be advanced, and making the surgeon feel sure that he has secured the entire mass. I have employed the method upon two eyes which had been rendered divergent by operations for convergent squint performed by a wandering quack. In one of these eyes the divergence was more than five lines; in the other about four. In the first eye I induced a small amount of convergent squint, which was cured by applying the glass, which neutralized existing hypermetropia. In the second case I produced a very slight degree of convergence, not exceeding a line, which was also removed by

Digitized by Google

the use of the proper glasses. And in both these cases the existence of hypermetropic asthenopia, would have rendered glasses necessary, aside from any convergence.

I have also satisfactorily performed the operation in two cases in which slight paresis of the internal rectus, the result of injury, had led to divergent squint.

In one case, in which the divergence was so great that one-fourth of the cornea was buried beneath the external canthus, the result was only partially successful; but I propose to repeat the operation after the cicatrix over the region of the internal rectus has so matured and softened as to render a repetition of the steps possible.

I have not seen any inflammation of an annoying character following the procedure, and my experience thus far justifies me in employing the method in preference to any other, as I believe that the risk to the eye is very much less than by any other, and the probability of success greater. I believe that the chance of success is greatly increased by dividing the external rectus of the fellow-eye, even though you propose to advance the internal rectus of one eye only.—*New York Medical Journal.*

Case of Pulsating Tumor in the Orbit cured by Ligature of the Common Carotid Artery: By JOSEPH BELL, F. R. C. S., Lecturer on Surgery, Edinburgh.

IN a former paper in this Journal, I endeavored to elucidate the pathology of the previously recorded cases of this very rare and interesting disease, and to prove that the name Aneurism by Anastomosis, which had been previously given to these cases, was pathologically incorrect. I have since then had no occasion to modify the views then expressed as to the true pathology; but having lately had a most distinctly marked case under my care, I believe it worthy of a brief report, as the cases already recorded are so very few—certainly not above two dozen authentic ones.

Adam Moffat, æt. forty-two, a strongly-made shepherd from Morebattle, called at my house on the 13th of April, 1867. He stated that, about thirteen months before, he had been knocked down by an omnibus in Judburgh, and he thinks the wheel passed over his head. His lower jaw was fractured and his head was cut; a deep scar still remains over his left eyebrow. Ever since the accident he has had occasional paroxysms of most intense headache, chiefly on the *right* side, along with a constant sense of "confusion," accompanied by the noise to be described immediately. He has noticed a protrusion of his *left* eyeball gradually increasing for the last year, and for six months his sight in it has been steadily and rapidly diminishing, so that it is almost useless to him. He feels this the more, for his *right* eye is almost blind from a very dense central nebula, which occurred some months ago in the course of a rapid inflammation of the cornea, which from his account was so slight as hardly to account for the density and size of the cicatrix. Since October he has been unable from blindness to follow his occupation as a shepherd, and now cannot distinguish individuals, or even

Digitized by Google

recognise the presence of a large picture in a dark frame on a light-colored wall. His spirits are exceedingly depressed, tongue foul, and indented by his teeth; pulse good, about 72.

Present State.—The left eyeball is projected quite out of the orbit, and the cornea protrudes beyond the vertical plane of the bridge of his nose, which is prominent. Both eyelids are stretched and everted, especially the lower one, the conjunctival surface of which is displayed in its whole length, and to a breadth of more than half an inch. Constant watering from the eversion of the punctum gives him great annoyance. By a violent effort of the *orbicularis* he is able to make the eyelids almost meet over the eyeball; but in general, and when he is asleep, they leave more than one-third of the cornea exposed. This portion is already dim and lustreless from the exposure. The tumor in the orbit has a distinct pulsation synchronous with the heart, can be diminished in size by pressure, and is exceedingly soft. One specially prominent rounded tumor, just above the ball, projects in the shape and size of a filbert, and is very soft. The supra-orbital artery and vein are both very much enlarged and tortuous. The artery, nearly as large as the radial, pulsates feebly. Temporal arteries are quite normal. There is a well-marked aneurismal bruit to be heard all over the head and neck, which apparently centres about the back of the orbit. It is distressingly audible to the patient, resembling, he says, the measured beat of an engine. This has been present with very little intermission since the accident, from which so many of his symptoms seem to result.

He has had very frequent attacks of most intense headache, which is confined to the *right* side of his head and face, and is accompanied by heat and vascularity of the surface.

By holding the book very close to his eyes, in a strong light, he can distinguish XXX. of Snellen's test type. Pulsation in the tumor and the bruit in the head cease on firm compression of the left carotid in the neck.

Patient had consulted many of the most eminent practitioners in his own neighborhood, including Dr. Campbell, of Dunse, Dr. Bookless, of Kelso, and Dr. Jeffrey of Jedburgh, by whom he was advised to come to Edinburgh.

On his own authority he had been vainly endeavoring to burn down the protruding eye and lids by caustic, probably nitrate of silver, which, as may be supposed, did not much improve the condition of the parts. He is exceedingly anxious for any operation, however formidable, which may have a chance of affording relief.

Operation.—15th April.—To-day, assisted by Mr. Bell, Drs. Wilson and Downie, and Messrs Finlay, Dale, and Vartan, I tied the left common carotid artery just above the omo-hyoid. The patient's neck was short and muscular, so the fleshy belly of the omo-hyoid had to be drawn downwards, and the sterno-mastoid outwards. The descendens noni was seen and easily avoided. The vein was very large and distended, so as completely to overlap the artery, but was cautiously held aside, and then the vessel was easily exposed and isolated; a muscular branch of the sterno-mastoid was the only one that required to be tied.

5 P. M.—Three hours after the operation, pulsation in the tumor is almost gone, and the eye is already less prominent.

Very few details need be transcribed, since the progress of the case was as uneventful as could have been wished.

Digitized by Google

16*th*.—Intense headache on right side of forehead and face.

17*th*.—A full dose of castor-oil relieved the headache with the evacuations.

18*th*—Greatly pleased at being able to recognise bright brass buttons on his nurse's dress. Pulsation gone; the bruit has ceased since the operation, except for a few minutes on the same evening.

19*th*.—To-day he can tell the time on my watch; is hungry, and, for the first time, is seen to grin.

23*d*.—Nothing to report. To-day reads XII. Snellen.

2*d*. *May*.—No symptoms to note; tumor rapidly diminishing; but, as the conjunctiva of lower lid still projects, and is everted, I cut off a long slice of it with curved scissors.

3*d*.—To-day ligature came away (19th day). He reads VIII. Snellen, and can see distant objects almost as well as ever he did.

4*th*—When up to day he found a pair of biconvex lenses, used for distant vision after extraction of the lens, and is much delighted to discover that with them he can read three and a half Snellen—(about the size of the leaders of the *Scotsman*).

5*th*.—To-day had a long walk to see the town,—in fact, cannot be kept in the house; reads six without glasses.

6*th*.—Insists on going home,—to report progress in a month.

To those familiar with the literature of the subject, this case will recall those by Busk, Curling, and Nunneley, to which I have given references in the paper already alluded to, and it is an exceedingly typical one. In one or two points it has special interest: 1. That it involves the patient's only useful eye, so that the amount of loss of vision was a notable symptom, and its rapid improvement equally marked; 2. The peculiar condition of the supra-orbital artery and vein; 3. The unexpected improvement in power of vision which the biconvex lens gave.—*Edinburgh Medical Journal.*

Cure of Opaque Cornea.

If we are to believe M. de Luca, opacity of the cornea is no longer one of those intractable affections which shame the Doctor in the public mind. In a memoir just presented to the French Academy, the *savant* we have mentioned states that he has found that sulphate of soda has the power of removing corneal spots in an almost incredibly short space of time. M. de Luca was led to experiment with this reagent from the circumstance that it maintains the fibrine of the blood in a state of solution. In his first trials he employed the sulphate dissolved in distilled water. This liquid he allowed to fall drop by drop on the ball of the affected eye, and the result was that after some days' treatment the opacity was to a considerable extent diminished. It then occurred to him to try the sulphate in the state of fine powder. On using it in this condition, and allowing a few particles of the powder to fall upon the eye, a more decided result was obtained—in one instance, a patient who had been previously almost completely blind regained a certain amount of distinct vision. These results are, if true, exceedingly remarkable.

Digitized by Google

We trust English ophthalmic surgeons will give the new remedy a trial, and we hope that the beneficial effects may not be of an evanescent character.—*Medical Times and Gazette.*

A Case of Injury of the Eyeball, in which Remarkable Appearances in the Choroid were seen on Ophthalmoscopic Examination. (Under the care of MR. SPENCER WATSON.)

WILLIAM B., aged 10 years, was brought by his father to the Hospital on November 7, 1866, suffering from the effects of a blow on the left eye which he had received on November 1. He could not tell what was the nature of the missile or instrument with which the blow was inflicted, nor whether it had been given accidentally or otherwise. He was struck quite suddenly while going along the street. When examined on November 7, there was no external wound, but the iris was wanting at the outer and lower part to the extent of about one-fifth of its whole circumference, and had entirely disappeared at this point, so that at first sight the appearance was as if a piece of the iris had been torn away. The lens tissue was swollen up and opaque, and pressing forwards through the pupil. There was great pain and great sclerotic vascularity. One leech was applied to the temple, and belladonna fomentations and belladonna lotion used.

After the application of these and similar remedies the pain gradually left him, but the tension remained for a fortnight or more above the normal standard.

December 7.—Eye quite free from irritation and vascularity; tension still increased; opaque membrane across the centre of the pupil; vision: counts fingers held to the outer side of the field.

14th.—Vision improved somewhat by a biconvex glass of 2-inch focal length.

Examined by the ophthalmoscope, the part of the pupil corresponding to the cleft in the iris is perfectly clear, and the optic disc can be distinctly seen through it. Opaque lens capsule occupies the central part. At that part of the fundus which corresponds to the yellow spot of Sömmering there is an irregular slate-grey patch, of about four times the size of the disc, lying beneath the retina, the vessels of which are seen passing over it, and not very much raised above the general surface of the retina itself.

January 25, 1867.—The patch remains almost unaltered, either in color, shape, or general appearance. The probable explanation of this is that in the injury sustained the choroid was lacerated at this spot by a sort of *contre-coup;* blood was poured out, and the pigment becoming mingled with the fibrine of the clot, has left the dull grey color of the patch as seen at present. No trace of the missing portion of iris could be discovered by the most careful ophthalmoscopic examination. It is probable that in the accident the lens and vitreous were tilted forward in front of this part of the iris, which became folded back on to the ciliary processes, where it may have formed adhesions and subsequently atrophied, and so escaped observation in the ophthalmoscopic examination.

Digitized by Google

It becomes a question whether the opaque capsule should be removed from the centre of the pupil, but Mr. Watson has decided not to interfere with this by any operation until the appearances in the fundus of the eye indicate that the effused blood or lymph has become reabsorbed, and there is, consequently, a better chance of useful vision resulting.—*Med. Times and Gazette.*

Atrophy of the Optic Nerve following Typhus Fever. (Under the care of Mr. TEALE, jun.)

J. D. aged 24, began in typhus, November 4, 1865. One month after, during convalescence, noticed a gradual failure of sight. Consulted Mr. Teale, jun., on February 17, 1866, when the right eye, which began first, is quite dark; the left eye sees shadows, nearly counts fingers.

Ophthalmoscope: Fundus not very distinct; both papillæ red, not very distinguishable, and surrounded by a dirty streaky condition of choroid; retinal veins tortuous, almost varicose.

March 3.—Blood in veins black, as if stagnant.

24th.—Discs more distinct.

May 19.—Discs distinct, and very white; sees a glimmer, but no object.—*Medical Times and Gazette.*

Ear Douche—A new Instrument for Cleansing the Ear: By EDWARD H. CLARKE, M. D.

THE importance of frequent and thorough cleansing of the external auditory meatus in cases of acute and chronic otorrhœa is manifest. Its necessity is pointed out by all writers on disease of the ear. There are probably few general practitioners who have not had occasion to prescribe, especially for children, syringing the meatus with simple or medicated water. This is commonly done by means of a small syringe, made of pewter, glass, or gutta-percha. All such syringes, however well made, and however easily used by physicians, are not well adapted for the use of patients. They get out of order easily. They hold only an ounce of water, and often less, and consequently do not cleanse the meatus by a continued stream of water, but by a succession of jets. The piston rarely moves with ease, and the force requisite to start it on its course, often propels it, when started, with undue violence, and so throws the water from the syringe violently into the ear. The orifice of the ear is not in frequently irritated or wounded by a repetition of attempted syringing, till the patient refuses to submit to it. I have frequently met with cases, especially of young children, in whom the necessary cleansing of the ear was entirely neglected in consequence of these and kindred difficulties.

Digitized by Google

With the hope of obviating these disadvantages, I devised the instrument which is simply an adaptation of the nasal douche. It consists of a glass jar of the capacity of about a pint and of a flexible tube three feet long. One end of the tube is attached to the jar, and the other end is furnished with a nozzle appropriate for the ear. By elevating the jar to a greater or less height, a continued stream of water is poured into the meatus with sufficient force to cleanse it thoroughly, and to do so without pain to the patient. I have used this instrument for the purpose of cleansing the ear in a large number of cases, and am satisfied with its action. It is preferable to the syringe for this purpose. It may be appropriately called the ear douche. It is manufactured and for sale by Messrs. Codman & Shurtleff, Tremont Row, Boston.—*Boston Medical and Surgical Journal.*

PATHOLOGICAL.

Excessive Development of Vegetable Growth in the Human Stomach.

The patient, a diamond-cutter, age 40, was admitted into the Metropolitan Free Hospital, on a Saturday, under Dr. Beigel's care. The symptoms which he exibited led Dr. Beigel to believe that it was a case of lead-poisoning. Obstinate constipation, tenderness of the hypogastric region with exacerbations at evening, paleness of the gums, etc. Iodide of potassium and a clyster were therefore ordered. When visited on the morning after admission, the nurse showed about a pint of the dark green fluid exibited to the Society. At first sight, it looked like a saturated solution of sulphate of copper, but the chemical test showed this assumption to be erroneous. On examination by the microscope, the fluid was seen to consist of innumerable sporules and cells of vegetable nature. The epithelial cells, which the fluid likewise contained in abundance, were also tinged with the dark green color. The bowels acted after the clyster, the fæces being of natural consistency and likewise slightly green-colored. No alteration took place in the condition of the patient, except that the heat in the mouth, of which he complained from the beginning, became intolerable. There was no desire for food; ice was the only thing he longed for. The hypogastric region remained tender, yet not in an excessive degree; there was no fever, no headache; pulse 100; tongue thickly furred, very hot, and perfectly dry. On Tuesday morning he again vomited about two pints of the green fluid described above; though of somewhat lighter hue, yet the microscopic appearance was the same as in the first. Of the nature of the growth no definite opinion could yet be formed; whether it be a fungus, or perhaps a peculiar form of sarcina, further investigation must show. The fluid had been examined by Dr. Lionel Beale, but yet no decided opinion was arrived at. The patient died on the following Monday morning, without exhibiting any symptom which could account for his death. Unfortunately the relatives objected to a post-mortem examination.—*Med. Times and Gaz.*

Digitized by Google

Black Deposit in the Large Intestine from the Presence of Mercury.

THE patient, who was of a naturally vigorous constitution, and died at the age of 74, had, for the last forty-three years of her life, taken a grain of calomel every night, except on some twenty occasions, when she substituted blue pill or grey powder. In addition, she took an extra dose of calomel, varying from a half to one grain, twice a week. The drug had been originally prescribed on account of sluggish action of the liver; but, finding relief from it, the patient persisted, in opposition to all professional advice, in its use, and for many years she enjoyed a good appetite and digestion. Ten years ago she had pleurisy of the left side, followed by partial collapse of the chest on that side, and two years ago disease of the heart, both aortic and mitral, was detected. Latterly the bowels were easily moved, half a teaspoonful of castor oil being sufficient to act on them, and the motions were very dark and offensive. For a year and a half she had suffered from flatulence and fugitive pains in the right and left iliac regions, which were always relieved, on the bowels being moved by the habitual doses of calomel. A few days before her death she complained of pain in the rectum, and Dr. Frederick Bird found a prolapsus ani, and noticed the protruded intestine to be of a very dark color. The heart's action became very weak, the breathing very short and panting, the legs œdematous; albumen appeared in the urine; the patient sank and died. On post-mortem examination, the heart's tissue was found in various stages of fatty degeneration, the aortic and mitral valves affected with atheromatous disease, the left lung contracted, and adherent on all sides to the pleural cavity; the liver was shrunk to a third of its size, its texture granular, the fibrous tissue hypertrophied, the cells either shrunk, or in a state of fatty degeneration; the gall-bladder was distended with bile, and contained gall-stones; the kidneys were in a state of granular degeneration; the stomach and small intestines had some spots of ecchymosis; Lieberkuhn's follicles were strongly marked, but the mucous membrane was otherwise healthy, and rather pale; the internal surface of the large intestine was remarkably black, mottled in parts with patches of a lighter hue, the color commencing at the ileo-cæcal valve, and contrasting strongly with the light color of the small intestine. The mucous membrane was smooth, unbroken by ulceration or abrasion of any sort, and presented the appearance of a toad's back. The coloring matter was found under the microscope to be situated in the sub-mucous tissue, and on chemical analysis it yielded globules of metallic mercury. The liver was analyzed, and also examined by the spectroscope for mercury, but none could be found. Dr. Charles T. Williams remarked that this case differed from recorded cases of mercurial poisoning, and probably stood alone as an instance of the daily administration of small doses of mercury for so long a period without having induced salivation, soreness of the gums, necrosis of the bones, or other symptoms which usually follow from a long course of the drug. He also drew attention to the facts of its only being deposited in the large intestine, of its being absent from other organs, of its deposit giving rise to no symptoms of inflammation or thickening, and, indeed, only to slight intestinal symptoms towards the end of the patient's life. He was of opinion that though mercury was only detected in the large intestine, the degenerations and alterations of structure in the heart, liver, and kidneys were promoted by the deteriorating influence of the metal on the

Digitized by Google

whole system, as the patient, who was originally of strong constitution and great energy, had of late years presented a peculiarly pallid and cachectic appearance, and yet was remarkably free from the wrinkled and decrepit appearance of old age.

Dr. CRISP thought the case related of great interest, and tended to show that the effects of mercury upon the system were not so deleterious as many practitioners supposed. He had known an old lady who lived to the age of 84. About the age of 40 she had a cancerous tumour of the breast removed by the late Sir Astley Cooper. After this operation she took blue pill every night up to the time of her death, believing that the mercury had been the means of preventing a recurrence of the malignant disease. Dr. Crisp could not attribute any of the morbid appearances in Dr. Williams's case to the effects of mercury. This patient lived to far beyond the average age allotted to man, and he (Dr. Crisp) believed that the bodies of any hundred individuals of the same age would present morbid appearances of as grave a character as in this lady. Young practitioners who saw morbid changes in the aged were too apt to forget that these changes were often salutary, and tended to prolong life. We all, as we advanced in age, ossified and stiffened, and the various wheels of the machinery were thus balanced and life prolonged. *Medical Times and Gazette.*

The Pathology of "House-Maid's Knee."

DR. MARKOE presented an enlarged bursa, removed from the right knee-joint of a middle-aged woman. It had been gradually increasing in size for a period of four or five years, and no cause was assigned for its appearance. The walls of the sac were remarkably thick, but the evidences of the existence of a fluid in its interior were sufficiently strong to make the diagnosis easy. The operation for its removal promised to be equally as easy and simple. On cutting down upon the mass it was observed that there was no line of demarcation, and its removal was only accomplished by a rather tedious dissection through a very close and firm cellular tissue. At one point it was impossible to separate the tumor from the external layers of the aponeurosis of the leg, and the operation was only completed by cutting through a broad portion of this fascia. He remarked that Erichsen had alluded to this incorporation of the walls of the sac with the aponeurosis referred to, and thought it was a fact to be borne in mind by younger surgeons who may be called upon to extirpate such growths.

The inner wall of the tumor had a flocculent mass attached to it, while the contents of the sac were very thick and semi-gelatinous in appearance. In connexion with the specimen it became an interesting question as to what was the origin of these tumors—were they natural, in the first instance, or acquired? He was inclined to the belief that no bursa existed over the ligamentum patellæ or patella itself, in the natural condition of the parts, as it was not found in young subjects and in many adults. In confirmation of this latter statement he remarked,

Digitized by Google

that Prof. Watts had given attention to this very matter some years ago, and had looked over all the subjects in the dissecting-room for one reason, and had not succeeded in finding a single one of the bursæ.

Dr. Post said he had occasion to remove three cysts in that situation. In all there was considerable difficulty attending their enucleation.

In answer to a question from Dr. Sands, Dr. Markoe stated that the bursæ were most prominent over the tubercle of the tibia.

Dr Post, as an argument in favor of the original existence of a bursa in the locality, stated, that he had met with an acute abscess completely confined to those limits.—*Medical Record.*

Malignant Pustule.

An epidemic of charbon, or malignant pustule, prevailed in the neighborhood of Las Cruces, New Mexico, during the summer of 1865; and Dr. Smith, after careful inquiry, believed that he had traced its origin to infection from diseased animals, among whom a distemper, as he calls it had existed for some time. He gives the following very remarkable instance of the production of the disease by contact with the fluids of animals which had succumbed to the malady that raged among them. Two men were engaged in skinning an animal which had died of the distemper. One of them had a pimple on his face, which he scratched with his nails until it bled; the other had received a scratch on the face from a thorn. The day was extremely warm, and the men frequently wiped the perspiration from their faces with their hands, covered as they were with the fluids of the animal. In a few hours pustules were developed upon the abraded surfaces in both individuals, and the disease proved fatal in one of them. In another case a goat that had become infected was killed and eaten by a family, but the woman only who prepared the flesh for the table was affected by the disease. Similar observations have been collected in France, and were communicated to the Bordeaux Congress which assembled last year, in confirmation of the existence of a form of malignant pustule produced by the contact of the tainted remains of diseased animals with the skin of man.—*Lancet.*

A Case of Cysticercus Cellulosæ of the Brain; and a Case of Dermoid Cyst of the Ovary.

The paper consisted simply of a pathological record of the two cases. The subject of the first mentioned disease was a boy aged fifteen, who died comatose after a week's illness from rheumatismal pericarditis and meningitis. A single cyst was found embedded within the surface of the right corpus striatum. It contained the retracted head and neck of the larval form of tænia solium (cysticercus cellulosæ). The boy had enjoyed good health until within two months of his death. During this

Digitized by Google

period he complained of frontal headache, and was frequently oppressed with an uncontrollable tendency to sleep. These were the only cerebral symptoms exhibited, and, from our imperfect experience of these cases, it remained doubtful whether they were to be ascribed wholly, or even in part, to the presence of the parasite. The other case was that of a married woman, aged thirty-five, the mother of five children. A tumor weighing twelve ounces was found appending to the outer end of the right ovary. It was composed of a fibrous bag enclosing a mass of solid yellowish fat, pervaded by a quantity of hair. The scalp tissue, from which these secretions were derived, formed a rounded projection into the interior of the cyst at that part where it was attached to the ovary. A second smaller projection, of the same nature, lay contiguous to the former, and adjacent to both was a bicuspid tooth enclosed in a sac. Projecting from the opposite surface of the sac, and attached to a lamina of bone developed within its walls, was a second well-formed bicuspid tooth. The left ovary contained two corpora lutea of the same age. Excepting a small long-stalked polypus attached to the posterior lip of the os uteri, and a small follicular cyst of the same part, the rest of the sexual organs were quite healthy, and the passages open.—*Medical Times and Gazette.*

Hair from a Young Lady Affected with Accidental Leuconderma.

THE lady, aged seventeen, was accidently hurt a year since by a comb, which wounded the occipital part of the scalp. A month after this a bald patch of the size of half a crown was noticed at the seat of injury. Soon after this perfectly white hair began to grow from the bald patch. There is now a large, thick lock of grey hair growing from a part of the occipital scalp, measuring six inches by four. The hair, excepting that it is white, is in every respect like the rest of the hair in regard of quality, but, being only of a year's growth, it is not more than a third of the length of the rest of the hair.

Mr Hulke had seen several patches of white hair formed in a case of melanosis, at King's College Hospital.—*Medical Times and Gazette.*

A Case of General Ochronosis of the Cartilaginous and Cartilaginoid Structures. By RUDOLPH VIRCHOW.

A MAN, æt. 67, died in the Charité Hospital, Berlin, a few days after admission on account of an injury of the head. He had been suffering from general dropsy, with ascites and hydrothorax, and was found on post-mortem examination to have an aortic aneurism. On preparing to open the body, the costal cartilages were observed to be black, and on

Digitized by Google

section they appeared as if they had been steeped in ink. The same appearance was presented by the sterno-clavicular cartilages, the intervertebral fibro-cartilages, the pelvic synchondroses, the articular cartilages of the extremities, and the cartilages of the larynx and trachea. In all, excepting the articular cartilages of the extremities, the color was quite black, in them it was brown or smoky. In all the cartilages connected with bone, the color was most intense next to the bone, and in the layer immediately beneath the perichondrium. In the laryngeal and tracheal cartilages, it was most intense in the centre, but the superficial layers had ossified. On microscopic examination, no black granules were to be seen, only brown and yellowish, such as are commonly met with in melanotic tumors. The pigment was generally distributed throughout the structure, but was by far most abundant in the intercellular substance, little existing in the capsules of the cartilage cells, and still less in the cells themselves.

This peculiar appearance certainly was not a result of decomposition; had it been so, the color would have been most distinct on the surface, which was not the case. At first sight, Virchow thought it might be a result of impregnation with salts of silver. He was in so far confirmed in this view, by the fact, that in many of the fibrous structures, ligaments, and tendons, in the deeper layers of the periosteum, and in the inner coat of the arteries, particularly the aorta, the same discoloration existed; and that in many of the joints, small black processes, in groups or solitary resembling crystals, projected from the synovial membrane. But these little crystal-like bodies proved to be minute cartilaginous outgrowths from the synovial membrane, colored like the natural cartilages; and there was no history of the patient having taken a course of silver; and most important of all, Dr. Kühne found, on chemical examination, that no silver was present, and that the only metal to be detected was iron; that the color depended upon the presence of an organic-coloring matter, which somewhat resembled hæmatin. From these facts and considerations, Professor Virchow concluded that he had to do with a vital pathological phenomenon, in so far related to the pigmentary deposition in the bronzed skin of morbus Addisonii. In this case there was no disease of the supra-renal capsules, and the only important point in addition to what has been mentioned was that in all parts, in which pigmentary deposit existed, the tissues were in a state of formative irritation.

Virchow concludes his paper as follows:—"I shall, for brevity, call the pigmentary condition of the parts Ochronosis. If it be referable to an imbibition from the blood, and occurs chiefly in non-vascular and nerveless parts, which are, however, in a state of formative irritation, the question arises whether it has no physiological analogue. It seems to me that it has. The ordinary pigment formation in the skin, the hair, and the choroid appears to depend upon a similar process (see Archiv, vol. i. pp. 468, 469). The formation of ephelides, etc., has no slight resemblance to the peculiar condition under consideration. The color is distributed in large patches, and so may be considered related to bronzed skin. But there are also in cartilages and ligaments conditions which may be regarded as minor degrees of ochronosis. I long ago pointed out, that in old people the semilunar cartilages of the knee-joint become dark yellow or brown, and there is nothing easier than to find deep yellowish-brown dicolorations in the bronchial and costal cartilages. The intercellular substance always contains the coloring matter, which is quite

Digitized by Google

homogeneous and diffused, and which must be distinguished from the much rarer granular and reddish-brown color sometimes met with in the cartilage cells. I am of opinion, therefore, that the present case was only an example of this more common ochronosis much more pronounced than usual."—*Virchow's Archiv, October* 1866.—*Edinburgh Med. Jour.*

Influence of Cold on Nervous Functions.

[We find the following epitome, at the end of a very interesting article, on the "Influence of Extreme Cold on Nervous Functions," by Benjamin W. Richardson, M. A. M. D. F. R. C. P. Senior Physician to the Royal Infirmary for Diseases of the Chest.]

1. Nerve tissue in living animals undergoes the process of freezing at 16° Fahr.

2. In the process of freezing any nerve structure the cold acts primarily on the vascular system of the structure, causing, firstly, a stage of preaction, or exaltation of action; secondly, a stage of inertia, or temporary death; and thirdly, in recovery, a stage of reaction, also with an exaltation of action.

3. Nerve substance, when so reduced by cold as to be incapable of conveying sensation, may yet convey an electrical current; but when nerve structure is absolutely frozen through in every part it ceases entirely to act as an electric conductor.

4. The cerebrum of a living animal may be frozen. In this state the consciousness of the animal is lost, but the functions of organic life remain the same. The animal thus placed is in a state of artificial hybernation from which it may recover. On recovery the brain does not seem to have lost any power. The phenomena are those simply of awaking from profound sleep.

5. The cerebellum may be frozen, and afterward complete restoration of its functions may be secured. In birds, freezing the cerebellum produces backward movements; in rabbits, convulsive muscular action.

6. Complete freezing of the medulla kills by destroying the respiratory power.

7. The spinal column may be frozen and restored. In birds the process of freezing the cervical part of the column produces backward movements with intervals of stupor.

8. By destroying, under the influence of cold, one part of the nervous system, we may pervert the function of another part. Thus, by arresting the functional activity of the cerebral mass, we can exalt the function of the spinal cord; and by destroying the function of the cerebellum, we can exalt the function of the anterior cerebral ganglia, or *vice versa*.—(*Medical Times and Gazette.*)

Digitized by Google

MEDICAL JURISPRUDENCE.

Proportionate Length of the Bones of the Extremities, as bearing upon Ethnology and Medical Jurisprudence: By SAMUEL LOGAN, M. D., Prof. Anat. Med. Col. State of Virginia.*

THE subject of Ethnological Craniology has received an almost exhaustive analysis at the hands of Morton and others; but it seems to me that the more comprehensive subject of Ethnological Osteology offers many points which are yet to be investigated. Some years ago I proposed to myself to enter this field; and it was with this view that, for some time before the late war, I had been making observations of the character of those I now lay before the Profession. The notes in manuscript, however, were destroyed at the burning of Columbia, and hence the items going to form the following tables are fewer than I would have desired, being only such as I have had it in my power to collect since the war. I propose adding to them, and will be glad to receive the coöperation of any member of the Profession who may feel an interest in the investigation.

So far as I have been able to ascertain, the observations I now offer the Profession are original. The works on Medical Jurisprudence and Anatomy speak in a general way of the proportions found to obtain between the various parts of the body, but I know of no accurate admeasurements of the bones, nor of any observations showing the differences in the relative development of the different bones in the various races, nor even a statement that any such differences exist in the proportions of the two main segments of the extremities.

In comparing the bones of the various human races, two kinds of differences are observed, namely, those which are *natural* and those which are *artificial*. Examples of the latter class we find in the cranial bones of some races, as shown in Morton's works on Craniology—the distortions therein portrayed having been produced by compression in early life—while instances of the former class are seen in the normal differences between the oblique alveolar process of the negro, compared with the perpendicular one of the Caucasian race—the different relative development of the cranial and facial bones of the two races, and the defective lachrymal bones of the negro, as first noticed, I think by my friend, Prof. F. T. Miles, of Charleston, South Carolina.

These natural and artificial differences must, of course, be carefully discriminated. There will hardly be any danger of confounding them, however, when considering the differences to which I now propose to invite the attention of the Profession by means of the following tables of "Osteological Admeasurements." The relative length of the individual bones of the extremities, the relations between the length of those composing respectively the proximal and the distal segment of each extremity, and the differences in these respects found to obtain between the races, cannot be influenced by the customs and habits of either. They are, as we find them, essentially *natural*, and not *artificial*, differences. Whether they may possibly be the result of climatic and social agencies, working through successive generations, I will not now discuss—my present object being merely to record the facts as now

* Now Professor of Surgery in the New Orleans School of Medicine.

Digitized by Google

existing, and to invite attention to their practical application in medical jurisprudence to the identification of bodies.

Without, then, any further preliminaries, I will present the tables alluded to. I may add that, to avoid any mistake which might have arisen from the mingling of bones belonging to the two sexes and races, in the late stages of the dissection and before the admeasurements had been made, I marked with a saw each bone of each extremity of each subject in such a manner that, after the soft parts had been dissected away, I could identify the bones belonging to each, and the sex. I then rebuilt each skeleton on the tables of the dissection room, after the bones had been cleaned off, and measured them with my tape line. A similar set of tables might be made up from the live subject; but I have ascertained that the admeasurements cannot be so accurately taken.

Table No. 1 presents the individual admeasurements arranged as to race and sex. It is deficient as yet in the white female department, because I have not recently had many opportunities of measuring such skeletons, of the identity of each bone of which I could be quite certain. The measurements are made by inches and decimal fractions of inches. An inspection of the table will explain its bearings.

TABLE No. I.—*Osteological Admeasurements.*

WHITES.

No. of Subject.		Humerus	Radius.	Ulna.	Femur.	Tibia.	Fibula.
Males	1	13.000	9.250	9.875	16.500	12.500	13.250
	2	12.875	8.625	9.500	16.375	12.500	13.125
	3	12.500	8 500	9.125	16.625	12.250	13.500
	4	12 375	8.500	9.250	17.250	14.000	14.125
	5	12.250	8.500	9.125			
	6	12.125	8.500	9.375			
	7	11.750	8.000	9.000			
Female	8	12.375	8.750	9.500			
		8)99.250	8)68.625	8)74.750	4)66.750	4)51.250	4)54.000
Average lengths		12.406	8.578	9.343	16.687	12.812	13.500

BLACKS.

Males	1	13.625	10.000	10.750	18.250	15.875	15.125
	2	12.750	9.750	10.875	16.375	14.250	14.900
	3	12.125	9.000	10.250	17.125	14.000	
	4	11.375	8.625	9.500			
	5	13.125	9.875	10.625	17.375	15.000	14.625
	6	13.375	10.000	10.750	17.375	15.375	15.000
	7	11.375	9.250	10.125			
	8				19.000	17.125	16.625
	9	13.250	10.125	11.250	19.000	16.125	15.625
	10	14.000	10.500	11.000	19.250	16.625	16.000
	11	13.125	9.875	10.875	18.500	16.750	16.000
Females	12	11.500	9.000	9.375	15.625	13.375	13.000
	13				15.500	13.250	13.125
	14				15.750	14.750	
	15				17.625	15.375	15.000
	16	11.375	8.750	9.375			
	17	12.125	9.500	10.250	16.500	14.625	14.250
	18	11.250	8.375	9.125	16.250	13.875	12.750
	19	10.750	8.250	9.000	16.125	13.375	13.125
		15)185.125	15)140.875	15)153.625	16)275.625	16)239.290	14)204.250
Average lengths		12.341	9.391	10.241	17.226	14.951	14.589

Table No. 2 is intended to show the difference between the distal and proximal segments of each extremity. In order to present the relations

Digitized by Google

plainly, and to facilitate the comparison between the two races mainly occupying this country, I have simply calculated the per centage borne by the distal segment to the whole limb. But since the distal segments are composed of two bones each—for I have not included in these tables any admeasurements of the hands or feet—I have made a special calculation for each of these bones. By the distal segments, I mean the forearm and leg.

A few remarks concerning each bone will be necessary:

1st. *The Humerus.*—The admeasurements were made from the top of the head to the most dependent point, which will be found on the trochleal articular surface. I have avoided measuring from the top of the greater tuberosity because of the variable degree of development of this part of the bone, the variations depending upon the varying degree of muscular development. The greater proportionate length of this bone in the white race will be seen by observing the lesser per centage borne by the length of the radius to the whole limb in that race. As expressed in inches, the humerus (see Table No. 1) is relatively to the *radius*, nearly one inch longer in the white than in the black race.

TABLE No. 2.—*Osteological Admeasurements.*

Showing the proportions between the distal segments and the whole extremity, by calculating per centage of former to latter.

WHITES.

No of Subject.	Per centage of Radius.	Per centage of Ulna.	Per centage of Tibia.	Per centage of Fibula.
1	41.573	44.382	43.108	45.689
2	40.116	44.186	43.290	45.454
3	40.476	43.452	42 424	46.715
4	40.718	44.311	44.800	45.200
5	40.963	43.975		
6	41.212	45.454		
7	40.506	45.569		
8	41.420	44 970		
Greatest per c,tage	No. 1—41.573	No. 7—45.569	No. 4—44.800	No. 3—46.715
Least do	No. 2—40.116	No. 3—43.452	No. 3—42.424	No. 4—45.200
Average	40.873	44.512	43.404	45.674

BLACKS.

1	42.328	45.502	46 520	44,322
2	43 333	48.333	46.530	45.714
3	42.603	48.520	44.979	
4	43.125	47.500		
5	42.934	46.152	46.332	45.173
6	42.780	45 989	46.946	45.881
7	44.848	49.003		
8			47.404	46.020
9	43.315	48.128	45.907	44.483
10	42.857	44.897	46.341	44.599
11	42.934	47.282	47.546	45.390
12	43.902	48.170	46.120	44.827
13			46.086	45.662
14			48.360	
15			46.590	45.454
16	43.478	46.565		
17	43,930	47.398	46.987	45.783
18	42.675	46.496	45.147	43.037
19	43.421	47.368	45.338	44.491
Greatest per c'tage	No. 7—44.848	No. 7—49.003	No. 14—48.360	No. 3—46.020
Least do	No. 1—42.328	No. 10—44.897	No. 3—44.979	No. 18—43.037
Average	43,230	47.147	46.383	45.059

Digitized by Google

2d. *The Radius.*—In estimating the length of the upper extremity, I have chosen the radius, in preference to the ulna, as the bone whose whole length is added to that of the humerus, because its length is less influenced by the varying degree of muscular development, and because its manner of articulation with the humerus is such as to give the least variable result. If the generalization derived from these admeasurements be confirmed by further observation, we may designate the race to which a given example belongs, provided the humerus accompanies it. If the length of the radius constitute more, let us say, then 42 per cent of the combined length of the humerus and radius (see Table No. 2), according to the tables, the bone must belong to the body of a negro; if it bears less than that per centage to that of a white man. I need hardly stop to remark upon the importance of this fact in its bearing on the identity of bodies before a court of justice. We might turn the scales, *pro* or *con*, in a matter of life or death.

3d. *The Ulna.*—It will be observed that there is a much greater range in the length of the different specimens of this bone. This is readily accounted for by the greater or less development of the olecranon process, in accordance with the degree of development of the tricep muscle. If an ulna and its humerus be presented for examination, with the view of ascertaining to which race they belong, and the length of the ulna constitute 46 per cent. or more of the combined length of the two bones when applied with their articular surfaces in their proper relations for the extended position, the specimen may be said to belong to the body of a negro; while if it measure only 44½ per cent or less, it must have belonged to that of a white man. Of the identity of those measuring from 44½ to 46 per cent., I should not say we could affirm anything very positively. The inferences to be derived from the measurements of this bone are therefore not as reliable and accurate as those from measurements of the radius. This difference is to be attributed to the greater variety of olecranon development already mentioned.

4th. *The Femur.*—In measuring this bone I extended the tape from the highest point of the head, directly to the lowest portion of the tibial articular surface, avoiding the trochanter major for the same reason which actuated me in reference to the greater tuberosity of the humerus. The greater relative length of this bone in the white man will be better appreciated by observing the comparatively lesser per centage borne by the length of the tibia to that of the whole limb. As expressed in inches, the femur (see Table No. 1) is, relatively to the tibia, more than an inch and a half longer, on an average, in the white race. The greater absolute average length of the specimens from the black race will probably be reversed when a larger number of white specimens have been measured, the four white subjects happening to have been smaller men.

5th. *The Tibia.*—In estimating the whole length of the lower extremity, excluding the foot, I have used this bone instead of the fibula, for obvious reasons. In measuring it, I extended the tape from a point opposite the end of the spine between the attachment of the crucial ligaments (this being the uppermost extremity of the bone) to the tip of the internal malleolus. The average per centage of its length to that of the whole limb (see Table No. 2) is seen to be 43.404 in the white race, while it is 46.383 in the black, the black tibia which bore the least per

Digitized by Google

centage being proportionately larger than the white tibia which bore the greatest, as we also find to be the case in reference to the radius and the humerus—not, however, with so great a difference in the former case as in the latter.

We would infer from the table that if a given tibia measured more than 46 per cent. of the whole limb—computed as above mentioned, by adding the length of the tibia to that of the femur—it must belong to the body of a negro; if under 44 per cent., to that of a white man. This leaves, unless further measurements give us more positive results, about one per cent. (from 44 to 45) of doubtful ground.

6th. *The Fibula.*—The proportion of this bone to the whole limb is greater in the white. This surprised me, and led me to observe that the relation it bore to the tibia is totally different in the two races. In the white race, so far as my measurements as yet indicate, it is invariably somewhat longer than the latter bone; while the reverse obtains in reference to the negro. In the white it is sometimes an inch longer than the tibia, while in the negro it is sometimes nearly an inch shorter. If this difference prove to be uniform, it will enable us, with only the tibia and fibula to examine, to say whether the body was that of a negro or white man.

Neither time nor space permits me to dwell upon the other interesting phases of this subject—such, for example, as the evidences thus afforded of an inferiority of organization of the one race when compared with the other—the greater length of the bones of the distal segments being a condition approximative to that found in the animals next below man in the zoölogical scale. My main object at present is to introduce this subject to the Profession, and to invite the coöperation of those who may be interested in its further investigation.—*Richmond Medical Journal.*

THERAPEUTICS AND TOXICOLOGY.

The Therapeutics of Cough as a Symptom.

Dr. Mussy says that if a cough is only a symptom, it is, nevertheless, one which is so inconvenient and embarrassing, that our first efforts are directed to diminishing or entirely removing the morbid impression to which it is due. Sometimes the cough may be caused by a necessity of expelling some foreign body, or of getting rid of some mucous secretion, which clogs the respiratory passages, but like all reflex phenomena it may be entirely out of proportion to the exciting cause, and it then becomes necessary to directly combat it as a symptom. It is still more necessary to endeavor to relieve a cough when it depends on an abnormal excitation felt by the respiratory apparatus, but which has its real seat in some distant organ: thus the determination of the first condition, a knowledge of the character of the cough and its relation to expectoration are the fundamental points on which the indication for immediate relief depend. Besides the intensity and frequency of the cough and its action on the system, two things ought to be taken into consid-

Digitized by Google

eration, viz: its dryness or humidity. Dry cough may either show a stimulation of the respiratory apparatus without tendency to catarrh; or may mark the first stage of catarrhal inflammation; and it then precedes the morbid secretion. There are moist coughs with rare, difficult and viscid expectoration, as if brought up from the deepest parts of the bronchial ramifications: there are also coughs which expel at each effort the mucus contained in the bronchi; finally, we may admit a variety of cough, which expresses at the same time, a desire to expectorate and an abnormal stimulus felt by the respiratory organs. When the cough is rare, followed by easy expectoration, which is at the same time proportionate to the extent and stage oft he disease, there is no special indication. Even if it presents these characters in the acute stage of pneumonia or bronchitis, anodynes, the most common remedies for coughs would be generally hurtful by increasing the dyspnœa and by diminishing the expectoration and the secretion of mucus, by which the pulmonary congestion is in that part relieved; if the intensity of pain or nervous excitement necessitate the use of anodynes, it would be well to combine with them antimony or ipecac, which has the property of rendering the bronchial secretion less viscid and more easily expectorated. This property of ipecac and antimony renders them highly useful when the expectoration is difficult and painful, accompanied by a violent convulsive cough.

The anodynes are indicated, to diminish the nervous excitement producing the cough, or to combat accompanying nervous symptoms. Auxillaries in the humid cough, they are the principle in that in which there is no need for expectoration. Almost all the pectoral syrups, pastilles and pâtes are of this description; sweet aromatic preparations containing opium in some form. When the tendency to cerebral congestion or violent febrile state, contraindicate opium, hyosciamus belladonna or the tincture of aconite may be used with great advantage. I often prescribe hyosciamus in such cases, in doses of three to five grains for an adult. Belladonna should be given with more caution, and is especially useful in spasmodic, convulsive coughs. Where there is intense fever, aconite acts both as a sedative to the circulation and to the pulmonary organs. Prof. Trousseau recommends painting the neck with laudanum. Taking into consideration the action of the pneumogastric nerve, I concluded that medicinal application over the track of the nerve could penetrate through the integuments and subjacent tissues to the nerve itself. Acting on this belief, I applied small blisters to the middle of the neck, just above the sternum, and just before the lower end of the xyphoid cartilage, and sprinkled half a grain of muriate of morphia on the denuded surface; and I have succeeded in calming the most obstinate coughs by this treatment. In studying the physiology of the cough, I have mentioned that tickling sensation which so often precedes and induces coughing, and which is probably seated in the pharyngeal plexus of the nerves. I have often applied laudanum with a hair pencil to the posterior part of the pharynx to act onthis plexus; for children I use belladonna, and this mode of treatment frequently produces very good results. I recollect a young girl who had a most incessant dry cough, following an attack of pleurisy, which disappeared in two or three days from local applications of laudanum to the pharynx. The employment of anodynes should be

Digitized by Google

proportioned to the age and intensity of the cough and the state of the digestive organs. It is often advisable to vary them, when their action begins to lose its power and it is not convenient to increase the dose. When the cough has periodical exacerbations, the medicine should be given a few minutes before the expected return of the paroxysm. When the cough is so violent as to prevent sleep, the anodynes should be taken in the evening just before going to bed and on rising in the morning. Administered at night they have an energetic diaphthorectic action which is sometimes beneficial and sometimes injurious.

If the cough produce vomiting, it can be prevented by giving, fifteen or twenty minutes before meals, a small dose of the extract of belladonna, which by diminishing the gastric irritability and delaying the paroxysm of coughing, prevents the stomach from being acted on too soon after eating. Laurel water and hydrocyanic acid are useful adjuvants or substitutes for opium and the solaneæ. When coughing returns at regular intervals it can frequently be relieved by quinine; it is not rare, especially in the decline of catarrhal fevers in children, for the cough to possess this character, and to see the febrile symptoms together with the accompanying cough disappear under the influence of quinine.

The bromide of potassium has frequently the same power over nervous affections of the respiratory apparatus, and the same remarkable sedative action upon the general nervous system. I was greatly struck with its effects on two patients, affected with influenza, who had been unable to sleep for several nights on account of the violence and continuity of the cough: fifteen grains and twenty-three grains of bromide of potassium with two grains extract of hyosciamus, in two doses were prescribed for these two cases and were soon followed by a long deep sleep from which one patient awoke well, and the other nearly so. Arsenic is also a powerful modifier of innervation and following the example of M. Trousseau, I have prescribed it in cigarettes made of paper impregnated with arseniate of soda three-quarters of a grain to each, the patient inhaling the smoke a few minutes. Under their action I have seen nervous and catarrhal coughs disappear which had resisted all other medication,

When the catarrhal element predominates, and especially when chronic or sub-acute bronchitis can be imputed to a scrofulous or herpetic diathesis the sulphurets which diminish the expectoration, diminishes the cough also.

In hysterical coughs besides local means, the nervous system must also be treated. In one case of this kind lasting for several months, a cure was effected by the use of iron and belladonna; another obstinate case which had resisted all medicine for months was relieved by a bread pill, which the patient was made to believe possessed violent powers.

Whenever the cough arises from an inflammatory disease of the respiratory organs the patient should avoid all cold as it favors congestions by driving the blood from the periphery to the central organs. In slight catarrhal affections, cold sometimes acts temporarily as a sedative, but this momentary calm is followed by an exacerbation of the symptoms.

Comforts, Nubias, etc., as protections for the neck, should be used cautiously by those susceptible to cold, for they render their wearers more sensitive to cold, and even produce an afflux of blood to the trachea

Digitized by Google

and larynx. Coughing is frequently produced by dryness of the air, in rooms heated by stoves or furnaces, this can be remedied by having a small vessel of boiling water on the stove.

A fit of coughing is frequently relieved by swallowing some food or liquid, and probably acts by dislodging any mucus accumulated in the back of the pharynx or by substituting a rythmical act of mastication for the spasmodic one of coughing—*L'Union Médicale, Mars* 1867.

Hydrochlorate of Ammonia in the Treatment of Senile Gangrene.

THE employment of hydrochlorate of ammonia in senile gangrene for the purpose of relieving pain and arresting the progress of the disease, is entirely new. M. Gru was called in to attend an old lady, eighty-three years of age, who was suffering from acute pains in the right foot, which all ordinary remedies had failed to relieve; no inflammation, however, was apparent. The next day, a dark blue coloration had extended over the whole foot up to the ankle joint, when a rose-colored line indicated the separation of the healthy part from the affected parts. Although, the patient complained of the foot burning, it was perfectly cold to the touch. M. Gru thinking the gangrene was caused by coagulation of the capillaries and small vessels, with a view of dissolving the coagulum, employed topical applications of hydrochlorate of ammonia in solution. After an immersion of two hours in the solution, the pain diminished greatly. The fomentations were kept up for some time longer, and whenever they were stopped the pain reappeared, the proper heat and color of the skin also returned under the application of this remedy.

The loss of the second toe by gangrene proves the diagnosis to have been correct, The strength of the solution was one ounce of the salt to one and a half gallons of water. A year after, the same patient had another attack of gangrene which being treated in a similar manner, was attended with great success—*L'Union Médicale, Juin*, 1867.

Successful Treatment of Cholera by Sulphate of Copper; M. DUFRAIGNE, Meaux.

THE cholera appeared as an epidemic in Meaux, progressing with great severity, few if any recovering from an attack. Sometime after its appearance, I was called on August 30th, to see a farmer who had been taken ill the day before with a slight diarrhœa, but which had become very severe by five A. M. of the day I was called in. I saw the man at ten A. M. and he had then all the characteristics of cholera, including vomiting, the cholera passages, coldness of the body, and the pulse scarcely perceptible. I ordered ipecac, stimulating drinks, warm external applications and opiate enemata. At two P. M. the patient

Digitized by Google

was much worse, complete algidity, and the pulse extinct. Death appearing imminent I resolved to try the sulphate of copper, and ordered the following prescription:

Aquæ distill, ℥ivss.
Cupri. Sulphat., gr.ii.
Tinct. opii, gtt.xx.
Tinct. melissæ, ℥i M.

A spoonful to be taken every ten minutes.

The first three spoonsful were not retained, and it was with much reluctance that the patient swallowed it; however the patient had taken and retained about two thirds of the prescription in five and a half hours, with no apparent improvement. At nine P. M., the patient was somewhat better, the vomiting and cramps having diminished, although the pulse was still imperceptible. A second portion was presented containing two and a half grains of sulphate of copper, and the same treatment continued. At seven A. M., the next day I found the man much better, the surface being warm, the pulse perceptible and the vomiting and passages almost arrested. I ordered the prescription to be continued at long intervals—and from this time the patient made a rapid recovery, and on the 10th of September was entirely well. Three other cases having arrived at an algid condition were treated in the same manner, two of whom were restored to health, while the third having been relieved of the choleraic symptoms, died two days after in a typhoid condition.—*Gazette des Hopitaux, Fevrier*, 22, 1867.

Ergot in Paralysis of the Bladder.

ALTHOUGH from its well known action on the uterus, the nervous supply of which is desired from a similar source, one might have been led to employ ergot in diseases of the bladder, we presume its use in such cases will, however, be new to many of our readers.

Dr. Leon Serbet, Aise, France, was called to see an old man sixty-six years of age, who had suffered from incontinence of urine for fifteen years. A few days before the visit of Dr. S. he had experienced great difficulty in passing his urine, and on the day the Dr. was called, there was complete retention. Dr. S. immediately introduced a number seven metallic catheter, and found no constriction of the urethra, marked sensibility, or obstacle to the passage of water, except a slight enlargement of the prostate gland. Dr. S. continued to draw off the urine for eight days, at the end of which time the patient still had no power over the bladder. The case being considered one of paralysis of the bladder resulting from over distention of the bladder during the retention of the urine, Dr. S. concluded to try the ergot of rye in powder—thirty grains during the day. This produced no effect beyond slight pains in the hypogastric region, and the water still required to be drawn with the catheter. At the end of ten days, the ergot was administered in doses of fifteen grains, four times daily, at twenty minutes interval, before and after a hip bath given in the morning, from this time the patient could urinate, and the incontinence had disappeared. The treatment was con-

Digitized by Google

tinued for fifteen days, and the end of which time the patient was cured. It is generally admitted that retention of urine, occurring in old men, without local lesions of the urinating passage, is due to the paralysis of the muscular fibres of the body of the bladder, while incontinence is due to paralysis of those of the neck of the bladder. Ergot acts upon both of these at once, curing the retention by exciting the contractility of the muscular fibres of the body, and the incontinence by its action on those of the neck of the bladder. Paralysis of the bladder in the old, is generally the effect of over distension of the muscular and mucous tunics in those who have long resisted the desire of urinating.—*Gazette des Hopitaux, Fevrier 12th*, 1867.

Morphia as an Antidote for Belladonna.

NUMEROUS recent observations have conclusively demonstrated, the efficacy of belladonna and atropine as antidotes in poisoning by opium and its preparations, and the following report appears to intimate that the converse is also true, and that morphine is as powerful an antidote against belladonna or its active principle.

Dr. Nieberge, of Berge, states that he was visited by a young lady sixteen years old, and her father, to consult him for a cataract in the right eye. Previous to examination, he dilated the pupils with a solution of sulphate of atropine. Having occasion to leave the room, he gave the vial to her father, directing him to pour a few drops more in her eyes in a short time, cautioning him at the same time to be very careful, as the medicine was very active. Returning ten minutes later, he was startled to find the vial empty and the pupils enormously dilated. The father said there was so little in the vial, that he did not think it could do any harm, as she had swallowed none of it.

The girl felt no ill effects at this time, but on attempting to eat a few minutes after, Dr. Nieberge perceived that she could not swallow. Dr. N. administered a strong cup of coffee, and she then rose to leave the room but immediately began to stagger and talk incoherently. The face and lips became burning red, respiration and pulse more frequent and very soon after she became insensible.

Dr. N. then injected hypodermically, in the back of the neck, one-third of a grain of morphia—this failing to calm the violent delirium, he continued the injections until after using one-third of a grain of morphine, the patient fell into a quiet sleep. After an hour and a half she awoke much confused in mind, and the next day was perfectly well.—*L'Union Médicale, Janvier*, 1867.

The above shows the promptness with which hypodermic medication acts, and which renders it especially useful in cases of poisoning.

A very interesting case of poisoning by opium occurred a short time ago, and is reported by Dr. Herrick, in the New Orleans Medical and Surgical Journal, where the antidote effects of atropine were produced in a few minutes by the hypodermic use of one-twelfth of a grain of atropine, the patient was aroused from profound coma and made a good recovery.

Digitized by Google

Remarks on the Employment of Chloroform as a Therapeutic Agent, when taken into the Stomach: By E. McCLELLAN, M.D., Assistant Surgeon and Brevet Major, U. S. A.

THE internal administration of chloroform, in the treatment of delirium tremens, and other neuroses, which has lately been revived with much success, is by many medical gentlemen considered a procedure of questionable propriety. These doubts of the therapeutic value of this drug arise, in the majority of instances, from the fatality which has attended its use as an anæsthetic agent. But objections are frequently advanced upon the ground that the exhibition of chloroform sometimes fails to relieve insomnia, and the consequent delirium, and that not unfrequently it induces free emesis, in place of acting as a remedy for nausea and vomiting.

It would indeed be strange, if among inebriates, who unfortunately compose a numerous class in every large community, idiosyncrasies were not observed, and if in the treatment of that disease to which they are liable, any proposed remedy should invariably produce the same results; but if in the majority of a given number of cases a decided and beneficial action is obtained, the cause of failure in the minority may as justly be sought in the individual, or in extraneous causes, as in the drug. Thus chloroform, which has been highly considered in the treatment of nausea and vomiting, produced by sea-sickness, pregnancy, and nervous irritation from other causes, may, when containing impurities, only aggravate the disorders, for the removal of which it is administered. On the other hand, idiosyncrasies may be combated in vain, since they are not to be overcome; the instances are so well known of certain drugs, harmless to the many, but exercising invariably an unpleasant influence over a few, that any enumeration would be nnnecessary. In a somewhat extended experience, in which the remedial power of chloroform has been carefully observed, very few instances have occurred in which its administration caused vomiting; and even in these cases; with but one exception, the same amount having been repeated, after a short interval, was retained, and produced the desired effect. Of the instance in which it became impracticable to continue its employment, the cause was found in an intense repugnance which the patient conceived, and which became so strong, that from that time the ethereal flavor invariably produced nausea and vomiting.

It may safely be accepted, that an over-dose of chloroform would most likely be quickly ejected by the stomach. To this fact are to be attributed the very few instances on record in which death has resulted from over-doses, which have been taken either by accident or from criminal purposes. Still this proposition must admit of qualification, since chloroform has produced violent poisoning in some cases on record—in a few others, death.

In the successful employment of chloroform as a remedial agent, much stress has been laid, by observers, on the great variations which may be made from a standard dose. A fluid-drachm, which in the majority of adults will procure sleep, being taken as a standard, it may be increased or diminished *pro re nata;* but in those cases which indicate the production of a decided hypnotic effect, it is certainly advisable to bring the patient rapidly under its influence. In fact, it will be found, that among the most frequent causes of failure in the use of chloroform, are the in-

Digitized by Google

sufficient doses exhibited, and the length of the interval between them on their repetition.

The impunity with which chloroform may be given in large doses has been frequently illustrated within my observation, and its application has not been confined to the treatment of delirium tremens alone. In a case of epidemic cholera occurring in a delicate female, who was in collapse, pure chloroform, in drachm doses, was four times administered, at intervals of ten minutes, with the most decidedly beneficial results. The cramps, vomiting, and purging were arrested, after which the remedy was repeated in half-drachm doses every thirty minutes, for two hours, when reaction was fully established. But still more encouraging has been my experience of the advantages to be derived from its exhibition in full doses, at the inception of disease; and especially does this refer to the treatment of delirium tremens.

It is imperative that chloroform about to be ingested should be chemically pure; as the employment of a specimen which has been adulterated with ether or alcohol, or one in which decomposition has taken place, or in which the heavy volatile oils are present, will either yield negative results or may be positively injurious. In order to avoid this danger, whenever a doubt exists, the specimen should certainly be subjected to the various tests.

Care should always be taken when about to administer chloroform by the stomach, especially to persons of a delicate organization, that it be suspended or enveloped in some vehicle which will disguise the pungent sweetness of its taste, as from it alone nausea, vomiting, or an intense antipathy may arise. To others less sensitive a small quantity of iced water will be sufficient; for the stimulation of the mouth and fauces, as the remedy passes, is but momentary, nor more unpleasant or powerful than the same amount of pure alcohol would be to an uneducated surface; and when it reaches the coats of the stomach, the sensation, being that produced by a diffusible stimulant, is, in the majority of instances, a pleasing one. That pure chloroform cannot long remain inert, when taken into the stomach, will readily be conceived from its physical properties. Impelled by its specific gravity it must pass quickly from the stomach into the intestinal canal, and through its peculiar volatility is soon converted into vapor. These characteristics render its absorption not only more prompt than those of the majority of other remedies, but more certain, even when the vital powers are all but exhausted. The rapid penetration of the densest tissues by chloroform vapor, and its power as an antiseptic, have been established by the experiments of Augend and Robin.

The effect produced by chloroform upon the nervous system can at best be ill defined. That it acts peculiarly for the relief of disordered nerve ganglia; that it diminishes congestion in its varied forms; and that it differs materially in its operation through the stomach, from its action when employed as an anæsthetic through the lungs, is evident, from the results obtained.

Administered to the digestive organs it acts as a diffusible, stimulating hypnic, possessed of diuretic and diaphoretic properties, and when taken in unusual doses, as an inebriant and irritant. Its therapeutic action is peculiarly that of a neurotic, and influenced by the extent to which it is administered, may be employed to rouse the nervous system when de-

Digitized by Google

pressed, and to tranquillize it when over-excited; or in other words, its contact with the nerve centres is sufficient to restore to them the power of recovering their equilibrium, and of reëstablishing their normal influence over dependent structures. This is shown in delirium tremens, the delirium of fever, insomnia, and diseases of that class, by the natural, not comatose or anæsthetic sleep, which will continue for hours after the quantity introduced through the stomach into the system has been eliminated. Its power is further shown in the cold stage of intermittent fever, and in the various rigors in which the nervous depression, with its distressing symptoms, is relieved, and reaction established. Also in epilepsy, infantile and puerperal convulsions, painful spasmodic affections, and kindred disorders; it is manifested by the rapidity with which the brain recovering from its temporary irritation, the convulsive or spasmodic movements are arrested. But still more striking is the power exerted over congestion, by restoring the tonicity of the blood-vessels, and thus relieving the local hyperæmia.

Such exhibition of chloroform does not, in the vast majority of instances, derange or impair the digestive power; but reversely, its effect, again, by ganglionic influence, is that of "food tonic," and in certain impaired or depraved conditions of the system, even in those whose chief characteristic is extreme irritability of the stomach. After its exhibition large quantities of concentrated nourishment are eagerly received. This craving for food, or ability to receive, retain, and digest unusual amounts of nourishment, is, in such cases, due to the chloroformic awakening of the great life centres to the requirements of the system, and should not be counteracted by other means than the natural stimulus of the body—*food.*

Perhaps one of the most interesting exhibitions of the power of chloroform is the rapidity with which acting as a diuretic, it removes bile from the blood and skin. In a case of jaundice in which the entire surface of the body was tinged, I gave chloroform in 3v. doses every three hours. The diuresis was excessive on the second day; the skin and conjunctivæ were nearly clean, and by the termination of the third, the elimination was complete. The affinity which exists between chloroform and bile has led the former to be suggested as a test of the presence of the latter.

The experience of such cases indicates that the elimination of ingested chloroform occurs mainly by the kidneys, and that the medium of the lungs and skin is but little employed. This theory is resolving itself into a fact, despite the contrary assertions of *theoretical experimenters.*

Fully satisfied that observation will convince the most sceptical that chloroform may be internally employed, not only without endangering life, but with advantage as a remedial agent, I have ventured to submit to the profession the foregoing remarks upon its internal administration, in a few of the many forms of human suffering which it is most probably destined to relieve.—*Medical Record.*

Use of Strychnine in Epilepsy: By WALTER TYRRELL, M. R. C. S.

THE action of strychnia in producing spasms and convulsions in the healthy subject, closely allied to, if not identical with those of epilepsy,

Digitized by Google

is, of course, known to us all. My object in the present paper is to call the attention of the Profession to the remarkable power which that drug possesses of controlling and altering those attacks in the epileptic. I made my first trial of strychnine in epilepsy in 1860, and was led to do so by reading a passage in Professor Van der Kolk's work on epilepsy, published by the New Sydenham Society in that year. He states (see page 258) that he was led to try the effect of conia in epilepsy from observing the manner in which that drug controlled the convulsions produced by strychnia. He accordingly placed three epileptics under this drug. So early, however, as the second and third days, he was obliged to give up its use, as the attacks were so decidedly increasing, both in severity and number. It was from this that I was first led to look to strychnia for the means of controlling epileptic convulsions. It being plain that conia, which controls the convulsions of strychnia, increases those of epilepsy, is it not probable that strychnia, acting, as we know it does, directly upon the spot we are now taught to consider the seat in which convulsions arises, may control the attacks in the epileptic? The first case in which I made use of strychnia occurred in the early part of 1860, in a young gentleman, aged twenty-eight, who had been for some time losing flesh and strength, and had been latterly subjected to attacks of "*petit mal.*" These culminated at last in a severe convulsive attack, in which he bit his tongue. After giving him rules for diet, exercise, etc., I prescribed for him the sixteenth part of a grain of the sulphate of strychnine, to be taken twice daily in solution. Under this treatment, which he continued for two months, he at that time entirely recovered, having no further attack, and improving in a most marked manner in health and strength. He had a slight tendency to relapse after about a year, which yielded at once to a return to the strychnia; since that time he has continued perfectly well. Though this was a favorable case for any treatment, yet its result was especially encouraging to me, as tending to prove that strychnine certainly did not *increase* the tendency to convulsion. Since that date I have treated sixty-nine cases of epilepsy with strychnine, some in America, some in England; and although in many cases I am unable to give the result, owing to my losing sight of the patients, I have seen as yet no case in which the strychnine did not exhibit a marked power in controlling and altering the convulsive attacks.

As my space is very limited, I shall confine myself to a few cases, choosing those in which the exciting causes of the disease appear to be different. In 1863, I saw a child, aged six, suffering from a severe form of "*petit mal.*" The disease had existed almost from birth. The attacks, which were very frequent, were unattended with convulsion, beyond an occasional stiffening of the right arm. She was semi-conscious during some attacks, perfectly unconscious during others. She sometimes fell. She had been under a variety of treatment—iodide of potassium, iron, valerian, etc. She entirely recovered under small doses of strychnine, after one slight relapse.

Severe convulsive epilepsy, partial paralysis, resulting from masturbation; J. P., aged twenty-six; six years epileptic, last two years almost idiotic; attacks, two or three in the day, varied much in intensity; often bit his tongue; partial paralysis of bladder and tongue. The effect of strychnine here was most marked. Fits at once diminished,

Digitized by Google

both in severity and number. Paralysis decreased very much. Ultimately fits ceased: memory improved greatly.

S. T., aged thirty-eight, had epilepsy fourteen years. Fits come on once in a week or ten days, probably excited by some gastric irritation, as they often occur after meals. In this case, from the first taking strychnine, the interval was ninety-six days, when an indiscretion in diet produced a slight attack, the last. He continued strychnine for ten months. Is now quite well.

J. S., a clerk, unmarried, has led a very irregular life. The fits, which have continued at irregular intervals for six years, were dependent on irregular circulation probably. In this case I found the combination of strychnine and digitalis very useful. He had suffered from delirium tremens. He is now quite well.

M. B., aged twenty-four. Epilepsy dependent on menstrual irregularity. A strong plethoric girl, subject to epilepsy for six years. First occurred after a stoppage of menstruation from cold. Fits violently convulsive; interval irregular. Here strychnine, with aloetics and antimony, produced an entire cessation of the fits.

I have lately seen E. H., aged thirty-four. Attacks dependent on deranged menstruation. In this case the fits, which occurred every week or ten days, have been entirely absent since taking strychnine, now four months. Menstrual regularity restored.

The following case I give at length, as I think it will be allowed to have been a most unfavorable one for treatment, owing to the length of time that the fits had existed, and also to the early age at which they came on. I give the case in the words of Mr. Swinhoe, surgeon, to the Swindon, Wilts :—"Thomas F., aged twenty, first had convulsive attacks at the age of thirteen months, which have continued at intervals ever since. Has never had less than two or three in the week. First seen by Mr. Tyrrell in August, 1866, at which time he frequently had two fits in the day. Ordered to take strychnine, which at first made him feel giddy, and twice a fit followed its administration; but by a little management and attention to the bowels the strychnine became tolerated. He has now taken it in small doses for about five months. His present condition is as follows :—The fits, which never occur oftener than once in the week, are more like fainting fits than epilepsy, and he is much better in health and more cheerful; in fact, in this most unpromising case the strychnine has proved of the utmost benefit." I may add that Mr. Swinhoe has another and most severe case under similar treatment, and doing very well.

In the following case, where the attacks are certainly due to derangement of circulation, the same change in the character of the attacks was observed; and from being violently convulsive they have become more like syncope, except that she is partially conscious throughout them; J. K., aged fifty, suffered from epilepsy twelve years; attacks very frequent; violently convulsive; circulation very irregular; suffers much from palpitation. Commenced strychnine November, 1866. Attacks now two in the week (formerly two and three in the day), (February, 1866).

Having now laid before you the practical effects of strychnine in controlling and modifying the epileptic attacks, I will endeavor to show the manner in which I believe it to act. I believe that, to have convul-

Digitized by Google

sion at all, you must first have existing a peculiar nervous sensibility, and by nervous sensibility I mean a condition not of nervous strength, but of weakness—an increased sensibility, with a lessened power of control. This condition being present, I believe that convulsion may be produced by two great exciting causes :—

1. Derangement of circulation in and about the medulla oblongata.
2. Nervous irritation, either centric or centripetal, to borrow Marshall Hall's terms.

In our treatment of epilepsy hitherto, I think that we have been looking too much to the virtues of individual drugs. At one time zinc has been in favor, at another nitrate of oxide of silver has been in vogue: and all cases were treated with one drug, however various might be the exciting cause. Now, I think that in strychnine we possess a medicine which acts directly on the seat of the disease, as a controller of the convulsive attacks; but, at the same time, I think that, in almost all cases, we must remove the exciting cause, which I think in most cases it is not difficult to discover and obviate. Thus, supposing the attacks to be induced by a deranged circulation in and about the medulla oblongata, I think that digitalis will be found a very effective remedy; and derivatives, counter-irritation, etc., will also be found of great service. I have also used ice to the neck with great effect. When the exciting cause results from nervous irritation, I think that, having discovered the set of nerves which are giving rise to the irritation, it is almost always possible to relieve their excitability. Thus, the pneumogastric is undoubtedly a most frequent seat of irritation, and it is in these cases where nitrate of silver, the sulphates of zinc or copper acts so well. Again, where the nerves of the uterus convey the irritation through the spinal cord, bromide of potassium will be found useful; and so on, through all the known causes of irritation. I would sum up by saying that I believe that in strychnine we possess a drug which will *always* control the excitability of the medulla oblongata and prevent convulsions, but that to cure the disease we must also remove the exciting cause.

I have now gone as far as my limits will allow me, but I hope in a future paper to lay before the Profession other important points in the cause and treatment of epilepsy.—*Medical Times and Gazette.*

ANATOMY AND PHYSIOLOGY.

Patent Vital Force.

THE great mystery of life, that sages have meditated upon, and philosophers wondered at in the ages—the Archæus of Paracelsus, the Anima of Aristotle, the Vital spirits of the older physiologists—has at last been cleared up by a brilliant genius who resides in Paris. M. Martin Ziegler has not only demonstrated the existence of a "vital fluid," but has even made the astounding discovery that it is disengaged "whenever azote and carbon are brought into contact." His method is simply—all grand truths are simply—he immerses a porous cell containing ammonia in a vessel filled with treacle! The end of a silk thread is placed in each, and then, on connecting them, "the circuit is closed, and the current of vital fluid passes," capable of producing "on an animated being very

Digitized by Google

considerable effects." No wonder the lucky inventor rushed off and patented his invention at once. He does not, it is true, tell us the precise nature of the "very considerable effects" which he is able to produce, but we can of course have no difficulty in guessing at them. We picture to ourselves the tottering steps and shrivelled limbs of the scarce "animated being," who will seek the patentee's laboratory, his stock of "vital fluid" well-nigh exhausted, and we see him return, after a brief exposure to the life-giving treacle, with the energy and fire of manhood's prime, and with a stock of "vital fluid" enough to last for another fifty years! We can fancy the inventor, with a cask of treacle and a carboy of ammonia, operating at the Morgue before a distinguished assemblage, and bringing back the warm tone of life and health to the cheeks and limbs of the ghastly corpses arranged there. Nay, the experience of Pygmalion himself seems hardly incredible in the light of this new discovery.

We could wish, however, for a little more detail. We should very much like to learn the equivalent in treacle of the vital force of an average man. How many pounds of treacle would be required to bring a man from seventy back to twenty? Would rejuvenescence be a *very* expensive process? And we feel no little anxiety to know whether we are justified in going on living without paying a royalty to M. Martin Ziegler.

We have not been playing upon our readers' credulity. The patent we have been describing has actually been granted to the well-known patent agent Mr. Brooman. Its date is October 3, 1866, and its number 2536. We recommend our readers to examine it, for a more powerful satire on the present state of the patent laws we have never seen. From the following quotations the character of the document can be told:

"Whenever azote and carbon are brought into contact, whether an azoted body and a carbonated body, or even a body strongly azoted and another which is only feebly azoted, there is disengaged an imponderable fluid, the presence of which is made known by particular effects on the organism of living things, animal or vegetable. This fluid, which the present inventor calls the vital or organic fluid, is thus a new agent generated in the midst of chemical circumstances, like heat, light, and electricity. It is collected, manifested, and transmitted by currents like the electric fluid, as hereafter explained, but notwithstanding that the phenomena by which it manifests itself have a certain analogy with electric phenomena, this vital or organic fluid has really an existence of itself, autonomous and independent, and the best proof of this is, that its currents can pass through conductors which are insulating for electricity. . . . . .

"Azoted bodies are those which are the best conductors of the vital or organic fluids, and among them preference is given to silk, which has the advantage of intercepting the electrical currents, the intervention of which would be inconvenient. As insulating bodies of the vital fluid I may mention glass, enamels, and minerals in general.

"The present inventor has also observed that if an acid or an alkali be made to act upon an organic matter a large quantity of vegetable of organic fluid is discharged; also that if the organic matter is devoid of azote the disengagement of the fluid takes place if an acid or an alkali be made to react upon a hydrocarburet, or even upon carbon.

Digitized by Google

"I now proceed to describe several arrangements of apparatus for producing the vital or organic fluid, which are comparable in one point of view with voltaic piles or batteries. . . . . .

"The following is a good arrangement :—A porous vessel or bladder is filled with caustic ammonia and immersed up to the neck in molasses contained in an ordinary vessel; a silk thread is attached to the neck of the porous vessel or bladder, and the end of the second silk thread is placed in the molasses; the two ends of the silk threads being connected, the circuit is closed, and the current of vital fluid passes; its effects will become manifested on an organised being in the line of the current. If a certain number of these elements are gathered togeter in couples, a dozen for example, by plunging the thread from the ammonia of the first element in the molasses of the following element, and so on, or by connecting on the one side all the threads from the ammonia, and on the other all those from the molasses, a powerful current will be obtained, which produces on an animated being very considerable effects." *Chemical News and Journal of Physical Science.*

Spontaneous Generation.

THE question of spontaneous generation is one which has exercised the thoughts and pens of observers of nature from very early times. While one class of thinkers believe it possible for common inorganic matter, under certain circumstances of heat, moisture, etc., spontaneously to assume living organic forms of plants or animals, others clung tenaciously to the dictum, *omnia ab ovo,* and insisted that a preëxisting living germ was essential to all living being. Aristotle believed that whenever a moist substance became dry, or a dry substance moist, animals were produced, and we find some of the poets accounting for the renovation of animal life after the deluge of Deucaleon, by the joint action of heat and moisture upon the prolific earth.

It is undeniable that our experience among the more fully developed animals and plants, would lead us to maintain the doctrine enunciated in the old Latin maxim we have just quoted, but when we come to those low organisms which hover upon the borders of vitality, we meet with difficulties not easily overcome. It is useless to speculate upon the ridiculous blunders of Mr. Crosse, of which so much use was made by the ingenious author of the Vestiges of Creation. Those of our readers who have perused that specious and shallow book, will remember that Mr. Crosse imagined that he had made acari by passing a current of electricity through a solution of silicate of potash containing a stone. Examination, however, showed that the electrical spider was simply the common *Acarus domesticus* a common pest of all dusty localities.

There are much lower forms than this, which are continually generated in infusions or solutions of vegetable or animal matter exposed to air, over the true origin of which a discussion is still going on. Among the most common of these is our ordinary mould, which is in truth as well defined a vegetable organism as the mushroom. The yeast plant

Digitized by Google

is another of these microscopic plants, which invariably makes its appearance when sugar is passing into alcohol. After the alcohol has been formed, and vinegar is in process of formation, another mycoderm, the vinegar plant or mother of vinegar makes its appearance. In the infusions already alluded to, multitudes of vegetable and animal organisms are speedily formed.

It is to such rapid developments of life as these that the advocates of the doctrine of spontaneous generation are in the habit of appealing. They maintain that when all sources of error are avoided, these minute creatures still appear, while their opponents insist that something has been overlooked, and that these forms are regularly hatched from germs floating about in the atmosphere in the shape of impalpable dust. Several experiments had already shown that the existence of such spores was highly probable, but it was reserved for M. Pasteur, a chemist of note, to make the most conclusive researches upon this subject, which have yet been undertaken.

The first point was to prove the existence of these germs. To accomplish this, M. Pasteur drew a volume of air through a glass tube containing a plug of gun-cotton, which intercepted the particles of dust. Transferred to ether, that solvent completely dissolved the gun-cotton, and left the dust unattacked. This soon settled to the bottom, when it was removed and subjected to microscopic examinations. It was found to consist of various abraded fragments of clothing, fuel, etc., and also of minute organized corpuscles, apparently spores of fungi and eggs of animalculæ. To prove their true character an experiment was undertaken. A mixture of a solution of sugar with yeast was boiled in a glass flask communicating with the air by means of a tube of platinum. In this way the air was driven out of the flask, and before it could return, the platinum tube was heated to redness. Thus all the germs were destroyed, and the air that entered was entirely free from living organisms. The flask was then hermetically sealed by fusing the glass neck. It was found that in this condition the solution might be indefinitely kept without any development of vegetable or animal life.

If into such a flask a little of this dust already mentioned is introduced, and the flask be then hermetically sealed, the ordinary living forms are soon found. Attempts were made to collect air for these experiments over mercury, but they always failed, because this metal could not be freed from atmospheric dust containing germs.

Researches into the distribution of these germs showed that they were more abundant upon plains than upon high mountains. In all cases, air free from these germs cannot promote fermentation.

These experiments were very ingeniously varied and repeated a great number of times, so as completely to justify the conclusion of M. Pasteur, that the theory respecting the spontaneous formation of the lowest type of life is deprived of one of its essential foundations.

Donnè, however, has recently (August, 1866,) deserted the ranks of Pasteur and gone over to the advocates of spontaneous generation. He examined rotten eggs, and found that they contained no organisms. He made a hole in each with a red hot needle, and let part of the contents flow out, and then put the eggs into a pan of boiling water. Ten days afterwards, the drops of water taken from the surface contained no trace of living being, but the interior of the eggs were full of them.

Digitized by Google

Donnè asks whence the germs could have come through the boiling water.

Pasteur replies that the temperature of ebullition does not necessarily annihilate the latent life of a germ, and cites instances of seed preserving vitality after four hours boiling. Donnè in rejoinder, varies the experiment by letting out a third of the contents of the eggs as before, and instantly admitting boiling water, after which he seals the opening with wax completely closing all communication with the air.

An English observer, Dr. Child, has repeated Pasteur's experiments, but in spite of every "exaggerated" precaution finds organisms in eight out of thirteen experiments. He accounts for this decrepancy by supposing that the microscopic power used by Pasteur (350 diameter,) was not high enough. He says that it requires a power of 1500 or 1700 diameters for the satisfactory investigation of these minute objects.

Thus the matter stands at present. The analogies of generation in the higher animals and plants are opposed to the theory of spontaneous generation, but no *a priori* reasoning can settle the question. The careful observations of facts alone can decide it.—*American Journal of Dental Science.*

EDITORIAL AND MISCELLANEOUS.

OBITUARY.

R. J. Breckinridge, M. D.—Dr. Robert J. Breckinridge was born in Kentucky, December 2d, 1828. He was the third son of Rev. Wm. L. Breckinridge and Frances C. Prevost.

His literary education was completed at Center College, and his medical degree obtained at the University of Louisville. After having graduated, he spent some eighteen months in Europe in the further prosecution of studies connected with his profession.

In 1853 he was married, at Louisville, Ky., to Miss Hunt, the daughter of a leading banker and merchant of that city.

Shortly after this event he was chosen to a Professorship in the Kentucky School of Medicine. In 1856 he resigned this position to accept the Chair of Materia Medica in the University of Louisville. In the summer of 1861 he came South, and joined his fortunes with those who struggled so bravely, yet so vainly, to sustain the "Lost Cause."

He was appointed surgeon in the C. S. Army, and served in that capacity with the 5th Texas Infantry, until its reduced numbers required its consolidation with another command. After this event he was appointed Medical Inspector, and assigned to duty as one of the staff officers of the Army of Northern Virginia. This position he still held when the Confederate forces surrendered.

After the conclusion of the war, Dr. Breckinridge removed to Houston, Texas, where he entered upon the practice of his profession, and where his death occurred on the 8th of July, 1867, of apoplexy.

Digitized by Google

Dr. Breckinridge was an unusually gifted man. His personal appearance was commanding and attractive; his manners dignified and graceful; his conversation polished and fascinating; he possessed a strength and versatility of intellect which enabled him to fill with high credit every responsible position to which he had been chosen. To all these advantages he added a nobility of nature, a warmth of heart, a refinement and correctness of sentiment, which deeply attracted him to those with whom he was associated. B.

Consolidation of the two Medical Journals.

DEEMING it conducive to the best interests of all concerned to concentrate their efforts at supplying the profession with the means of keeping up with the progress of medical knowledge and the collateral sciences, those interested in the conduct of the two journals hitherto published in this State, have made such arrangements as practically to consolidate them into one periodical, combining the resources and the advantages of both. The same talent and energy which have hitherto found expression through the pages of the "New Orleans Medical and Surgical Journal," and in those of the "Southern Journal of the Medical Sciences," are promised to the support of the new publication, which it is proposed to issue as the successor of the two.

To those who have been connected with this journal as contributors or subscribers, we beg leave, in this our last visit to their studies in our accustomed garb, to make our most respectful salutations, and to solicit a continuance of their patronage and their *practical* support. There can be no doubt but that their interest as well as our own will be advanced by the proposed union. We will therefore take it for granted, unless otherwise specially informed, that their relations with us will continue under the new arrangement. Acting with this understanding, we will send the copies of the new issue regularly to them. We will not, therefore, bid farewell to our old friends, as if about to sever our relations, but prefer to avail ourselves of this occasion the rather to extend our hand to them for mutual congratulation, and to promise a cordial introduction to the new acquaintances to whom the proposed union will connect them.

We are confident that this friendly co-operation between those whose labors have hitherto been divided must conduce to the benefit of all concerned—to the benefit not only in a mere utilitarian view, but also in fostering that enlarged liberality, and that cordial sympathy, even in a worthy rivalry, which, while they clothe our profession with the dignity that so well becomes a corps whose pursuits should elevate its members far above the little prejudices of life, at the same time add a charm peculiarly their own to that interchange of observations and that communion of thought which constitute the moving life of medical as of other sciences. "Let us work together in harmony" shall be our greeting to our new associates.

Digitized by Google

Report of Deaths in the City of New Orleans, from the 1st day of July, 1867, to the 30th day of September, 1867.

Males.....2646. Females.....1317. Not stated.....125. Total.....4088.

DISEASES.		DISEASES.		DISEASES.	
Abscess of Abdomen	1	Dropsy, Ovarian	1	Labor, Difficult	1
" of Brain	1	Drowned	24	Lightning	1
" of Kidneys	2	Dysentery	34	Liver, Disease of	4
" of Liver	4	" Acute	7	Lockjaw	55
" of Lungs	1	" Chronic	22	Malformation of Heart	1
" of Lumbar	2	Diptheria	13	Marasmus, Adult	8
Albuminuria	1	Epilepsy	7	" Infantile	40
Aneurism of Heart	1	Entero Colitis	20	Measles	1
" of Aorta	1	Erysipelas	2	Meningitis	16
Anæmia	8	Fever	15	Old Age	9
Angina	1	" Bilious	24	Paralysis	14
" Pectoris	1	" Congestive	139	" Mercurial	1
Aphthæ	1	" Pernicious	150	Peritonitis	5
Apoplexy	22	" Intermittent	29	" Puerperal	1
Asthma	2	" Brain	22	Pericarditis	2
Bronchitis	14	" Nervous	7	Pleurisy	1
Burns or Scalds	6	" Puerperal	3	Pneumonia	43
Brain Disease	1	" Remittent	61	" Pleuro	1
Bright's Disease	1	" Scarlet	7	" Typhoid	2
Cancer	8	" Scarlet, Malignant	4	Poison	4
" of Breast	3	" Typhoid	42	Premature Birth	14
" of Tongue	1	" Typhus	10	Pyemia	1
" of Womb	6	" Yellow	1903	Purulent Absorption	1
" of Neck	1	Fracture	1	Purpura	2
" of Brain	1	" of Skull	1	Rheumatism	4
" of Face	1	Gangrene	1	Scrofula	2
Carbuncle	2	" of Scrotum	1	Scurvy	2
Cholera	90	" of Nose	1	Small Pox	3
" Infantum	28	" of Lungs	1	Softening of Brain	5
" Morbus	15	" Senile	1	Spine, Compression of	1
Cirrhosis of Liver	5	Gastro Enteritis	27	" Injury of	1
Colic, Bilious	2	Gastrodynia	1	Spina Bifida	1
Concussion of the Brain	1	Gout	3	Stillborn	159
Congestion of the Bowels	5	Hæmorrhage	5	Syphilis	2
" of the Brain	57	" from Lungs	6	" Tertiary	3
" of the Liver	1	" from Navel	1	Skin Disease	1
" of the Lungs	8	" from Womb	5	Suffocation	2
Consumption	172	Heart, Disease of	33	Suicide	2
Convulsions	30	" " Valvular	2	Sun-Stroke	4
" Adult	5	" Enlargement of	4	Teething	37
" Infantile	85	Hydrocephalus	4	Tris. Nascentium	56
" Puerperal	2	Hepatitis	11	Tumor	1
Cyanosis	2	Hooping Cough	9	Tubercle in Brain	1
Croup	10	Inflammation of Bladder	1	Tabes Mesenterica	4
Debility	8	" of Bowels	29	Urine, Infiltration of	1
" Adult	13	" of Brain	19	Ulceration of Womb	1
" Infantile	18	" of Larynx	1	" of Bones	1
Delirium Tremens	10	" of Kidneys	2	" of Bowels	3
Diarrhœa	28	" of Liver	2	" of Stomach	1
" Acute	1	" of Lungs	4	" of Throat	2
" Chronic	37	" of Stomach	14	Unknown	21
Dropsy	13	" of Throat	1	Worms	2
" in the Abdomen	8	" of Womb	1	Wounds	1
" of Brain	2	Inanition	2	Not stated	29
" in the Chest	2	Intemperance	5		
" of Heart	1	Disease of Intestines	1		
" of Liver	1	Killed Accidentally	7		
Total					4088

AGES.		AGES.		AGES.	
Under 1 year	537	25 to 30 years	542	86 to 90 years	14
1 to 2 years	209	30 to 40 years	655	90 to 100 years	3
2 to 5 years	229	40 to 50 years	356	100 and upwards	3
5 to 10 years	201	50 to 60 years	189	Unknown	182
10 to 15 years	105	60 to 70 years	80		
15 to 20 years	233	70 to 80 years	49	Total	4088
20 to 25 years	501				

Digitized by Google

NATIVITIES.		NATIVITIES.		NATIVITIES.	
Africa	2	Ireland	494	Sweden	8
Austria	26	Italy	74	Switzerland	23
British America	7	Mexico	2	United States	1795
Belgium	4	Norway	1	Unknown	1
Bohemia	1	Poland	12	Wales	3
Canada	31	Portugal	1	West Indies	14
Denmark	10	Prussia	104	Not stated	522
England	88	Russia	13		
France	282	Scotland	35		
Germany	511	Sandwich Islands	1		
Holland	3	Spain	22	Total	4088

White,—3337 Black,—366 Mulattoes,—175 Not stated,—170 Total,—4088

Compiled from Monthly Reports of Board of Health, by L. H. Cohen, M. D.

SUBSCRIBERS to the "Southern Journal of the Medical Sciences," who have paid for Vol. 2, will receive the first number of the consolidated journal in lieu of the February number of this. If they have paid since the commencement of Vol. 2 for a year, the new journal will be furnished them until the expiration of their subscription. The same will apply to the subscribers to the New Orleans Medical and Surgical Journal. All subscribers who are in arrears for Vol. 2, will cease after the first number of the new journal to be considered as subscribers, unless their arrearages are satisfactorily settled.

A short experience in journalism has convinced us that no journal can be profitably conducted on the credit system. We shall therefore insist, in every case, upon prepayment. We trust our subscribers will be prompt in sending their remittances, and thus save us and themselves much unnecessary annoyance.

The terms will be $6 per annum.

New Sydenham Society.

Dear sir—As Honorary Secretary of the New Sydenham Society, I beg to bring its publication under your notice, and to invite you to enrol yourself as a member.

The Society was instituted for the purpose of supplying certain acknowledged deficiencies in the existing means of diffusing medical literature. Works of a *practical* character and of *permanent* value are selected for publication.

You can acquire the whole of the works issued by the Society from 1859 to 1867 (35 volumes, including 28 vols. handsomely bound in cloth, gilt, and 7 fasciculi of the Society's Atlas of Portraits of Skin Diseases, embracing more than 20 life-size colored plates, 18×24 inches), for nine guineas; or you can commence with either the past or the present year.

The subscription is one guinea per annum, payable in advance.

I undertake to receive your annual subscription, and to hand you the books as soon as they are issued.

I am, Dear Sir, truly yours.

RICHARD J. DUNGLISON, M. D.,
Hon'y Local Secretary.

Digitized by Google

Medical Society of the State of New York, 118 W. Houston Street New York, July, 1867.

SIR—At the late meeting of the "Medical Society of the State of New York," it was resolved: "That a Committee be appointed to investigate and report upon the result of consanguineous marriages, etc."

If such marriages come under the your observation, you will confer a favor by answering the following questions, and transmitting such report, before November next, to the undersigned, one of the Committee appointed:

1. Name (initials) and age of HUSBAND.
2. Nativity
3. Age when married.
4. Constitution.
5. Health, deformities, peculiar diathesis.
6. Health of his family, hereditary diseases, deformities, etc.
7. Name (initials) and age of WIFE.
8. Nativity.
9. Age when married.
10. Constitution.
11. Health, deformities, peculiar diathesis.
12. Health of her family, hereditary diseases, deformities, etc.
13. How are the parties related to each other?
14. How long married?
15. How many children, or sterility?
16. Abortions; cause; how many, and at what period?
17. Children died, at what ages and from what diseases.
18. The constitution, age and present health of living children, deformities, mental conditions, idiocy, cretinism, deaf, mute, blind, epilepsy, albinism, insane, etc.
19. Remarks and other information.

Hoping to receive your valuable co-operation for the advancement of medical science, I remain yours, most respectfully,

ROBERT NEWMAN, M D.

Another Medical Journal

WE are in receipt of the prospectus of the Humboldt Medical Archives, a monthly Journal of Medical Sciences, to be published in St. Louis, edited by Drs. Pallen and Hammer.

BOOKS AND PAMPHLETS RECEIVED.

"Chemistry." By WM. THOMAS BRANDE, D. C. S., F.R.S.L. & E., etc., and ALFRED SWAYNE TAYLOR, M. D., F. R. S. Second American edition, thoroughly revised, 764 pages. Henry C. Lea, Philadelphia; 1867. Jas. A. Gresham, New Orleans.

"A Treatise on Human Physiology, designed for the use of students

Digitized by Google

and practitioners of medicine." By JNO. C. DALTON, M. D., Professor of Physiology, etc., in College of Physicians and Surgeons, New York., etc. Fourth edition, revised and enlarged, with 274 illustrations, 695 pages. Henry C. Lea, Philadelphia; 1867. James A. Gresham, New Orleans.

"The Physiology of Man, designed to represent the existing state of Physiological Science as applied to the functions of the human body." By AUSTIN FLINT, JR., M. D., Prof. of Physiology, etc., in the Bellevue Hospital College, etc. Alimentation, Digestion, Absorption, Lymph and Chyle, 556 pages. D. Appleton & Co., New York; 1867.

"Injuries of the Eye, Orbit and Eyelids; their immediate and remote effects." By GEORGE LAWSON, F. R. C. S., Eng., etc., with numerous illustrations, 408 pages. Henry C. Lea, Philadelphia; 1867. James A. Gresham, New Orleans.

"On Railway and other Injuries to the Nervous System." By JOHN ERIC ERICHSEN, F. R. C. S., etc., 103 pages. Henry C. Lea, Philadelphia; 1867. James A. Gresham, New Orleans.

"Essentials of the Principles and Practice of Medicine." By HENRY HARTSHORNE, M. D., Professor of Hygiene, University Pa., etc., 417 pages. Henry C. Lea, Philadelphia; 1867.

"A Biennial Retrospect of Medicine, Surgery, and their Allied Sciences." Edited by Mr. H. POWER, Dr. ANSTIE, Mr. HOLMES, Mr. THOS. WINDSOR, Dr. BARNES, and Dr. C. HILTON FAGGE, for the New Sydenham Society, 522 pages. Philadelphia, Lindsay & Blakiston; New Orleans, Krull & Dickey.

"It is I." A book for every man. A companion to Why Not. By HORATIO ROBINSON STORER, M. D., of Boston. Boston, Lee & Shepard. Duodecimo, 154. From Author.

"Mechanical Surgery as a specialty." E. D. HUDSON, M. D. From Author.

Annual Announcement of Willamette University.

"Notes on the Origin, Nature, Prevention and Treatment of Asiatic Cholera." By JNO. C. PETERS, M. D. Second edition, with an appendix. New York, D. Van Nostrand, 192 Broadway; 1867. From Author.

"Annual Report of the Commissioners of Emigration of the State of New York, for the year ending December 31st, 1866." Pamphlet. Office Iron Age; 1867.

"Report of the International Sanitary Conference on Asiatic Cholera." Translated by SAM'L ABBOTT, M. D. Boston. From Author.

"Transactions of the Medical Society of the State of Kansas, for the year 1867."

"Catalogue of the Medical College of Virginia, Session 1866–67."

Digitized by Google

"Memoranda of Cases treated before the Medical Class in the University of Louisiana, Session 1866–67." By Prof. S. M. BEMISS, M. D., C. J. BICKHAM, M. D., and B. A. POPE, M. D. From Authors. Reprinted from New Orleans Medical and Surgical Journal.

"Administration of Chloroform by Deglutition." By JEROME COCHRAN, M. D., Mobile, Ala. From Author.

"Introductory Address on the commencement of the Session of the Medical Department, Willamette University, 1867. By A. SHARPLES, A. B., M. D., Professor of Anatomy. From Author.

"Prize Essay on Medical and Vital Statistics." By FRANKLIN B. HOUGH, M. D., Lowville, N. Y.

"Menstruation; or the Menstrual Flow an epiphenomenon of Ovulation." By G. M. B. MAUGHS, M. D., St. Louis, Mo. From the Author.

"The Physician's Visiting List for 1868." Philadelphia, Lindsay & Blakiston; New Orleans, Krull & Dickey.

EXCHANGES.

British Medical Journal, London; Medical Times and Gazette, London; Lancet, London; L'Evéement Medical, Paris; L'Union Medical, Paris; Gazette des Hopiteaux, Paris; Richmond Medical and Surgical Journal; Buffalo Medical and Surgical Journal; Galveston Medical Journal. Boston Medical and Surgical Journal; Medical and Surgical Reporter, Philadelphia; Western Journal of Medicine, Indianopolis, Ind.; Detroit Review of Medicine and Pharmacy; New York Medical Journal; Atlanta Medical and Surgical Journal; American Journal Medical Sciences; Medical News and Library; Chicago Medical Examiner; Cincinnati Lancet and Observer; St. Louis Medical and Surgical Journal; Medical Record, New York; Braithwaite's Retrospect; Chicago Medical Journal; New Orleans Medical and Surgical Journal; Dental Register, Cincinnati, O.; Pacific Medical and Surgical Journal; Medical Reporter, St. Louis, Mo.; Southern Medical and Surgical Journal, Augusta, Ga.; American Journal of Pharmacy, Philadelphia, Pa.; Dental Cosmos; American Journal of Insanity; Journal of Materia Medica, New Lebanon; Nashville Journal Medicine and Surgery; Canada Medical Journal; Druggists' Circular and Chemical Gazette, New York; Medical and Surgical Pioneer, Kansas City; College Physicians, Philadelphia, Pa.; American Naturalist, Salem, Mass; American Journal Dental Science, Baltimore, Md.; Quarterly Journal Phsychological Medicine, New York; Texas Medical Journal; Leavenworth Medical Herald; Rankin's Abstract, American republication; Humboldt Medical Archives, St. Louis, Mo.; Chemical News, New York; the Medical Gazette, New York; American Medical Association (transactions.)

Digitized by Google

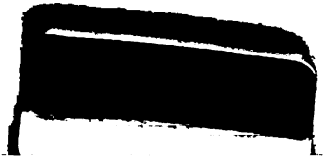
Digitized by Google

Digitized by Google

Digitized by Google

Digitized by Google

UNIVERSITY OF MICHIGAN
3 9015 06980 1960
BOUND
FEB 18 1943
UNIV. OF MICH.
LIBRARY



Digitized by Google

Digitized by Google